This Issue Exceeds 87,000 Copies

THE JOURNAL

OF THE

American Medical Association

Annual Subscription, $5.00 | PUBLISHED WEEKLY | Single Copies, 20 Cents

VOLUME 86, No. 4 | 535 North Dearborn Street, CHICAGO, ILL. | JANUARY 23, 1926

CONTENTS AND SUBJECT INDEX

Experiences with Cholecystography, Including Observations on the Function of the Gallbladder. L. R. Whitaker, M.D., Boston.....239

Discussed by Drs. Pfahler, Whitaker and Piersall.

Perineal Prostatectomy: Twenty-Five Years' Experience with the Author's Technic. Parker Syms, M.D., New York 244

Osteomyelitis of the Frontal Bone as a Complication of Frontal Sinusitis. Albert E. Bulson, Jr., M.D., Fort Wayne, Ind.....246

Recurrent Inoperable Carcinoma of the Breast: An Analysis of Three Hundred and Sixty-Three Cases Treated by Radium and Roentgen Ray. Burton J. Lee, M.D., and Norman E. Tannenbaum, M.D., New York....250

Discussed by Drs. Pancoast, Pfahler, Schmitz and Lee.

Trauma and Malignancy: With Report of Cases. Harry E. Mock, M.D., and John D. Ellis, M.D., Chicago, Ill. 257

A Department of Physical Therapy. Norman E. Titus, M.D., New York.261

Serologic Studies of Proteinurias. I. Results of Precipitin Tests Following Injection of Antistreptococcic Serum and of Normal Horse Serum. Ralph M. Tandowsky, M.D., Salt Lake City 263

Native Case of Infestation by the Fish Tapeworm, Diphyllobothrium Latum. M. W. Lyon, Jr., M.D., South Bend, Ind. 264

The Effect of Gas Anesthetics Used in Labor on the Bleeding and Coagulation Time of the New-Born. Heyworth N. Sanford, M.D., New Haven, Conn. 265

Gastric Acidity in Syphilitic Children. Maurice Dorne, M.D.; W. A. Brams, M.D., and I. Harrison Tumpeer, M.D., Chicago 267

CLINICAL NOTES, SUGGESTIONS AND NEW INSTRUMENTS

Cerebellar Abscess: Operation and Recovery. Henry M. Goodyear, M.D., Cincinnati 268

A Rack for Stomach Tubes. John L. Kantor, M.D., New York.....269

SPECIAL ARTICLES

The Council on Physical Therapy. Morris Fishbein, M.D., Chicago...270

Technic of Medication: Fourth Article. Bernard Fantus, M.D., Chicago...274

EDITORIALS

Peritoneal Adhesions.....278

The Trend of Veterans' Relief Legislation: State Medicine.....278

The Safe and Sane Fourth of July..280

CURRENT COMMENT

Feminine Irritability.....281

The Next Educational Conference..281

(Subject Index on next page)

Entered as Second-Class Matter, June 25, 1885, at the Postoffice at Chicago, Ill., under Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized on June 14, 1918. If undeliverable, return postage is guaranteed

Copyright, 1926, by the American Medical Association.

NEXT ANNUAL SESSION, DALLAS, TEXAS, APRIL 19-23, 1926.

Bulletin

ADVANCE ORDERS

When the new edition (virtually a new work!) of

MOYNIHAN'S ABDOMINAL OPERATIONS

came from our presses, there were piled up in our shipping department

1020 ORDERS

These were filled at once, of course. Was yours in the pile?

Are you *using* this magnificent and practical work?

Two volumes: Per set, $20.00 net

Pratt and Bushnell's *NEW*

Physical Diagnosis of Chest Diseases

The authors of this new work feel that in order properly to evaluate pathologic signs, a thorough knowledge should be had of the localized peculiarities of the chest in health. For this reason they have included a special chapter in which the chest in health is discussed in detail.

Unusual consideration is given to the subject of pulmonary tuberculosis, the authors believing that after mastery is had in the diagnosis of pulmonary tuberculosis in its various forms, the diagnosis of other diseases of the lungs will be found relatively easy.

Pathologic physiology is the approach through which cardiac disease is presented, but throughout the work the point of view of the clinician is maintained. There are, of course, chapters on radiographic examination, on blood-pressure determination and on other graphic and laboratory methods of diagnosis.

Octavo volume of 522 pages, illustrated. By Joseph H. Pratt, M.D., of Boston; and George E. Bushnell, M.D., of Bedford, Mass. Cloth, $5.00 net

SAUNDERS, *Publishers*

See Page 3

SUBJECT INDEX TO THIS ISSUE

The letters used to explain in which department the matter indexed appears are as follows: The Star (*) indicates an Original Article; "ab," abstract; "E," Editorial; "C," Correspondence; "T," Therapeutics; "Ml," Medicolegal; "P," Propaganda for Reform; "ME," Medical Economics.

A. M. A., Council on Physical Therapy....*270
Annual Congress on Medical Education, etc. E-281
Abdomen, diseases, traumatic....290
Abortion, experiences with....ab-318
Acid, barbituric, hypnotics of....ab-307
Acidosis from diseased appendix....ab-304
postoperative nondiabetic ab-318
Adhesions, peritoneal E-278
Alkaloids, adsorption, in pills....ab-316
Anesthesia, epidural ab-315
ethylene and oxygen....ab-303
in obstetrics vs. blood in new-born....*265
sacral ab-306
Aneurysms in Scarpa's triangle....ab-309
of subclavian artery ab-314
Appendix, enlarged ab-309
diseased, causes acidosis....ab-304
traumatic 290
Arsenic normal constituent of body....ab-304
Arthritis, chronic, treatment....ab-318
hot molasses bath for....ab-318
Bacillus, colon, agglutination....ab-316
Bacteriophage, hemolytic tests with....ab-318
treatment of pyelitis ab-317
Barbital, restrictions on sale of....297
Bile Duct, cystic dilatation of....ab-311
Bladder, cancer ab-309
Blastomycosis, treatment ab-314
Blood sugar, alimentary and epinephrine hyperglycemia ab-314
Bone formation by osteoblasts....ab-309
Book Notices....298
Books Received....Adv. page 28
Breast, cancer, recurrent *250
cancer with bone metastasis....ab-304
Cancer and trauma....*257
diagnosis, chemical ab-316
Carbohydrates vs. plague bacillus....ab-313
Carbon Monoxid poisoning....ab-307, ab-311
Cerebellum and internal ear....ab-315
abscess, operation and recovery....*268
Chagas, visits of....291
Cocain poisoning ab-307
Contusions ab-314
Corpus Luteum prevents nausea....ab-304
Correspondence 294
Cystin causes nephrosis and nephritis....ab-318
Deaths 292
Deformities from cerebral palsy....ab-306
Dermatitis due to mohair....ab-306
Diabetes Mellitus, gastrojejunostomy in....ab-312
glucose requirement in....296
insulin in ab-306
pregnancy and ab-306
protein reduction in....296
Diaphragm, rupture of....ab-302
Dick test ab-316
Diphtheria toxin produced in Martin culture medium ab-313
Drug eruptions in syphilis....ab-304
Dysentery bacillus ab-308
Ear drum-head, lipoid arc of....ab-316
internal, and cerebellum ab-315
Eczema, glucose intolerance in....ab-306
Electrotherapeutics *270
Embolectomy ab-311, ab-315
Embryoma of testis with metastases....ab-311
Empyema, tuberculous, interlobar....ab-313
Encephalitis tremor, nicotine in....ab-316
Epilepsy, sympathectomy in ab-314
Erysipelas, hemotherapy in....ab-312
Exercise, effect on heart size....ab-304
Eyes, occupational injuries....ab-316
Femur, fracture of neck of....ab-302
Fever, water metabolism in....ab-316
Foreign Letters....287
Fourth of July, safe and sane....E-280
Fractures, treatment ab-302
Frambesia, immunity in....ab-305
Frontal Bone, osteomyelitis *246
Frontal Sinusitis *246
Gallbladder, roentgenography....*239, ab-311
Glandular therapy ab-312
of menstrual disorders....ab-307
value ab-312
Goiter, exophthalmic, diagnosis and treatment ab-314
Heart, size, effect of effort on....ab-304
Hemoglobinuria, paroxysmal, in syphilis....ab-305
Hemolytic tests with rabbit serum....ab-318
Hospitals, escape of patient, liability....Ml-299
Hypnotics of barbituric acid series....ab-307
Immunity vs. cells and phagocytosis....ab-313
Industrial accidents of eyes....ab-316
accidents and diseases, fourth international congress on 290
Infants, New-Born, blood in, vs. anesthetics in obstetrics *265
Infectious Diseases, Switzerland....289
Insomnia, death from taking drugs for....288
Insulin and pregnancy glycosuria....ab-317
Insurance, health, vs. occupational disease....291
life, knowledge imputed to company....Ml-300
life, paralysis, general; liability....Ml-300
social 288
Intestine, large, blood supply of....ab-317
rupture from abdominal contusion....ab-302
Iron, effect on tubercle bacillus growth....ab-306
Kidney, cysts, serous ab-313
disease from cystin....ab-318
polycystic ab-315
Labor and polycythemia ab-316
Larynx, tuberculosis, alcohol injection relieves pain ab-305
Leg, artificial, fitting socket....ab-310
Leukemia, chronic, childbirth in....ab-317
Licorice powder, adsorbs alkaloids....ab-316
Liniments *276
Lipoids, biologic significance....ab-317
Liver function in pregnancy toxemia....ab-318
Lotions *274
Lye, bill to label....286
Malaria control ab-315
industrial 290
Marriages 292
Measles, Dick test in....ab-316
Medical Education, annual congress on....E-281
Medical Education, Registration....297
Medication, technic of *274
Medicolegal 299
Meetings, Coming Meetings....301
Meninges, hemorrhage, extradural spinal....ab-310
Menstruation, disorders, endocrine treatment ab-307
Mercurochrome-220 soluble ab-301
Metabolism, gas ab-317
Milk fever ab-318
Mohair causes dermatitis....ab-306
Mouth cancer ab-303
Narcotic law, Switzerland....289
Nausea, corpus luteum prevents....ab-304
Nephritis from cystin....ab-318
Neurology, Duchenne's contributions....ab-314
New and Nonofficial Remedies....277
News 282
Nicotine in encephalitic tremor....ab-316
Nitrogen, colorimeter microtest for....ab-315
Old Age, contractual capacity....Ml-301
Osteomyelitis of frontal bone....*246
Ovary, grafting ab-308
radiotherapy ab-308
Palpation in pyelitis....ab-316
Para-insulin, formation of....ab-318
Paralysis, cerebral, deformities from....ab-306
flaccid, from extradural spinal meningeal hemorrhage ab-310
general, malaria treatment ab-316
Pelvis, infections, milk injections in....ab-308
Peptic Ulcer, perforation of....ab-317
stomach cancer and ab-310
surgery, results of ab-308
Phagocytosis, reaction ab-313
Physical Therapy, A. M. A. Council on....*270
department at Beekman Street Hospital....*261
Physicians, age at death of....ab-318
Pituitary Extract, action on uterus....ab-307
causes uterus rupture....ab-303
Plague bacillus, action on carbohydrates....ab-313
Pleura effusions, shifting....ab-317
tuberculosis ab-309
Pneumonoconiosis 291, ab-304
Pneumonography ab-309
Poliomyelitis, convalescent serum in C-294, C-295, C-296
Polycythemia and childbirth....ab-316
blood volume in ab-315
Powell, Sir Richard Douglas....288
Precipitin tests of proteinurias....*263
Pregnancy and diabetes ab-306
chronic leukemia in....ab-317
early sign of ab-312
glycosuria and insulin....ab-317
toxemia, liver function in....ab-318
Privileged communications, examination of prisoner, admissibility Ml-300
Propaganda for Reform....294
Prostatectomy, perineal *244
Protein therapy in pelvis infections....ab-308
therapy with whole lactic acid milk....ab-306
Pyelitis, palpation in....ab-316
bacteriophage treatment ab-317
Pyemia, jugular vein ligation for....ab-317
Queries and Minor Notes....298
Rectum prolapse, surgery for....ab-303
cancer 290
Reflex, patellar E-281
Rehabilitation, industrial 290
Respiration, Cheyne-Stokes', cause of....ab-317
Reticulo-Endothelial System and water metabolism ab-317
Rickets and constitution....ab-316
Rockefeller Foundation gift to University of Strasbourg 290
Roentgen-ray burns, treatment....ab-302
Sanitary service, frontier, Switzerland....289
Scarlet Fever, antitoxin treatment....ab-307
Semaschko, visits of....291
Serum injections, precipitin tests after....*263
convalescent, in poliomyelitis.C-294, C-295, C-296
Sexual offenses against the young....287
Sinus pericranii—Stromeyer....ab-301
Society Proceedings....286, 301
Spinal Cord, injury, spinal block in....ab-303
Spine curvature ab-317
curvature, treatment ab-317
Staining, vital, and grafting....ab-316
State Board Examinations....297
Sterility in male....ab-302
Stomach, cancer vs. ulcer....ab-310
acidity in syphilitic children....*267
roentgen study, in infants....ab-314
tubes, rack for....*269
Sympathectomy for epilepsy....ab-314
periarterial ab-303
Symphyseotomy, subcutaneous ab-318
Syphilis, drug epiphenomena in....ab-304
erythrocytic sedimentation speed and fragility in ab-317
immunity in ab-305
in children, gastric acidity in....*267
paroxysmal hemoglobinuria in....ab-305
primary, pathology ab-313
treatment, bismuth ab-304
treatment, symposium on ab-316
Tapeworm, fish, infestation by....*264
Testicle, cancer metastases, roentgenotherapy ab-306
embryoma with metastases....ab-311
arteries, chemical exclusions of sympathetic of ab-317
Thymus, sarcomatous thymoma....ab-307
Thyroid, bone formation in....ab-309
Tonics and Sedatives....Adv. page 22
Torula infection in man....ab-301
Transplantation and vital staining....ab-316
Trauma and malignancy....*257
Trephining, fate after ab-314
Tropics, tuberculosis in....ab-305
Trypsin flocculation in serum....ab-317
Tubercle Bacilli, acid fastness....ab-306
bovine type ab-313
growth, vs. iron ab-306
Tuberculosis, bilateral spontaneous....ab-305
complement fixation in ab-305
in infants, treatment....ab-318
in tropics ab-305
prognosis vs. family history....ab-313
surgical, iodized oil in....ab-313
treatment, diet ab-318
Tuberculosis, Pulmonary, apical roentgenogram in ab-305
blood calcium in ab-305
surgical risk in....ab-302
thoracic splint for ab-305
Typhoid bacilli, viability of....ab-316
Typhus, etiology ab-312
Ultraviolet rays and antiscorbutic vitamin....ab-311
Uncinaria larva, isolation ab-315
Ureter, repair of ab-308
Urine, protein *263
Uterus, action of pituitary extract on....ab-307
displacement, traumatic 290
hysterectomy technic ab-302
levator cervicis uteri....ab-309
roentgen study using iodized oil....ab-314
rupture, from pituitary extract....ab-303
Vein, jugular, ligation of....ab-317
Veterans' relief legislation....E-278
Vision, near, recording of....297
Vitamin C and ultraviolet rays....ab-311
Vocational guidance 291
tests for railway service....292
Vulvovaginitis in children....ab-312
Water metabolism ab-316
in fever ab-316
reticulo-endothelial system and....ab-317
Women, irritability of....E-281
Workmen's Compensation for minor injuries....290
physician, selection of....Ml-300
Wound union, analysis of....ab-309

ALL MAKES OF VISITING LISTS — *Send for circular* — CHICAGO MEDICAL BOOK CO. Congress and Honore Sts. Chicago

For the General Practitioner we have a Special Pressure, Suction and Anesthetizing Outfit. Portable and for office. Many thousands in use. May we mail you a description of it?

C.M. SORENSEN CO., Inc. 440 JACKSON AVE.-LONG ISLAND CITY-NEW YORK

Specialists' Equipment. Portable and Hospital Anesthetizing Apparatus. Tankless Air Compressors, Chairs, Multiple-utility Outfits. Adjustable Lamps. Please ask for Catalog N.

The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

VOL. 86, NO. 4. CHICAGO, ILLINOIS JANUARY 23, 1926

EXPERIENCES WITH CHOLECYSTOGRAPHY

INCLUDING OBSERVATIONS ON THE FUNCTION OF THE GALLBLADDER *

L. R. WHITAKER, M.D.

BOSTON

Cholecystography as originated by Graham and his associates [1] has not only proved to be a diagnostic agent of great value but also provides an excellent means for investigation of the function of the gallbladder.

The test is an application of the discovery by Abel and Rowntree [2] that the liver secretes the halogen compounds of phenolphthalein. Graham and Cole [1] first recommended the intravenous injection of the calcium and sodium salts of tetrabromphenolphthalein for this purpose. On account of the greater atomic weight of iodin, however, and the larger proportion of it in the salt, we estimated that sodium tetra-iodophenolphthalein should be approximately twice as opaque to roentgen rays as sodium tetrabromphenolphthalein. Extensive experimentation confirmed this belief, and proved the toxicity of the two compounds to be approximately the same. With equal toxicity and the necessity for a dose only half as large, it was obvious that the iodin salt should be superior to the bromin salt as a medium for cholecystography.[3]

Since, however, Graham and Cole in their first paper had stated that tetra-iodophenolphthalein seemed to be too toxic to permit its extensive use in man, it was decided to try the salt on a presumably normal human subject who volunteered for the purpose before it was used on patients. Accordingly, the test was made, the bromin and iodin salts being used on the same person at different times, for comparison. After injection of the bromin salt he suffered nausea, vomiting and prostration, while after the iodin salt he experienced no untoward symptoms. We were thereby encouraged to proceed with the clinical use of sodium tetra-iodophenolphthalein, which has been attended with excellent results.

In a recent article, Graham and his collaborators,[4] following a clinical and experimental study, have confirmed our findings and agree with us that sodium tetra-iodophenolphthalein is the best medium at hand for the purpose of cholecystography, though, as they have pointed out, it is slightly more variable and less stable than the analogous bromin compound.

Two methods of administration, intravenous and oral, have been developed.

INTRAVENOUS ADMINISTRATION

In general, the technic laid down by Graham and Cole for injection of the bromin salt has been followed except that a dose of 0.04 gm. per kilogram of body weight is made into a 5 per cent. solution with distilled water, filtered and autoclaved, and when ready for injection diluted to a strength of 2 per cent. with salt solution in a gravity apparatus, and run slowly into the vein. Care must be taken not to allow any of the solution to escape into the subcutaneous tissues, as there is danger of producing a slough.

The injection may be made at night or in the morning. The advantage of the injection at night is that the patient does not have to fast during the day, since he must take no food from six hours before the injection to ten hours afterward. Ten hours after injection a roentgenogram is made, the regular gallbladder technic with the Bucky diaphragm being used. If a distinct shadow results the patient is given food containing fat, and another roentgenogram is made an hour later to see whether the shadow has shrunken, an event which we [5] consider to be good evidence that the gallbladder wall maintains its elasticity (Figs. 1 and 4). If, then, a clearly outlined shadow of the gallbladder, oval or pyriform, and homogeneous in density, is obtained, which shrinks down after food, the gallbladder is considered normal, and no further tests are made. If, on the other hand, the shadow is absent after from ten to twelve hours, or very faint, or persists longer than twenty-four hours, there is presumed to be a cystic duct block or cholecystitis; if the shadow is very irregular in outline, the gallbladder is probably distorted by adhesions or fibrosis (Fig. 2); if the shadow shows "negative" areas, they are due either to gallstones (Fig. 3) or to gas in the intestines overlying the gallbladder. "Negative" areas due to gas, however, are inconstant in subsequent plates.

At the Peter Bent Brigham Hospital the intravenous method has been employed with sixty patients, 8 per

* Read before the meeting on radiology in the Section on Miscellaneous Topics at the Seventy-Sixth Annual Session of the American Medical Association, Atlantic City, N. J., May, 1925.

1. Graham, E. A., and Cole, W. H.: Roentgenologic Examination of the Gallbladder: Preliminary Report of a New Method Utilizing the Intravenous Injection of Tetrabromphenolphthalein, J. A. M. A. **82**: 613-614 (Feb. 23) 1924. Graham, E. A.; Cole, W. H., and Copher, G. H.: Visualization of the Gallbladder by the Sodium Salt of Tetrabromphenolphthalein, ibid. **82**: 1777-1778 (May 31) 1924; Roentgenological Visualization of the Gallbladder by the Intravenous Injection of Tetrabromphenolphthalein, Ann. Surg. **80**: 473-477 (Sept.) 1924. Graham, E. A.; Cole, W. H., and Copher, G. H.: Cholecystography: An Experimental and Clinical Study, ibid. **84**: 14 (Jan. 3) 1925.

2. Abel, J. J., and Rowntree, L. G.: J. Pharmacol. and Exper. Therap. **1**: 231-264, 1909.

3. Whitaker, L. R., and Milliken, G.: A Comparison of Sodium Tetrabromphenolphthalein with Sodium Tetra-Iodophenolphthalein in Gallbladder Radiography, Surg., Gynec. & Obst. **40**: 17-23 (Jan.) 1925.

4. Graham, E. A.; Cole, W. H., and Copher, G. H.: Cholecystography: The Use of Sodium Tetra-Iodophenolphthalein, J. A. M. A. **84**: 1175 (April 18) 1925.

5. Milliken, G., and Whitaker, L. R.: The Clinical Use of Sodium Tetra-Iodophenolphthalein for Cholecytography, Surg., Gynec. & Obst. **40**: 464-654 (May) 1925. Whitaker, L. R.; Milliken, G., and Vogt, E. C.: The Oral Administration of Sodium Tetra-Iodophenolphthalein for Cholecystography, ibid. **40**: 847 (June) 1925.

cent. of whom showed reactions severe enough to cause headache, and nausea and vomiting, but in no case dangerous. In twenty-eight of these patients on whom exploratory laparotomies were made the diagnosis by cholecystography proved to be correct in 93 per cent., as against 70 per cent. by clinical methods.

ORAL ADMINISTRATION

Through the cooperation of Davies, Rose & Co. of Boston, manufacturing chemists, we have developed an oral method for the administration of sodium tetraiodophenolphthalein in "enteric" coated pills.[6] The

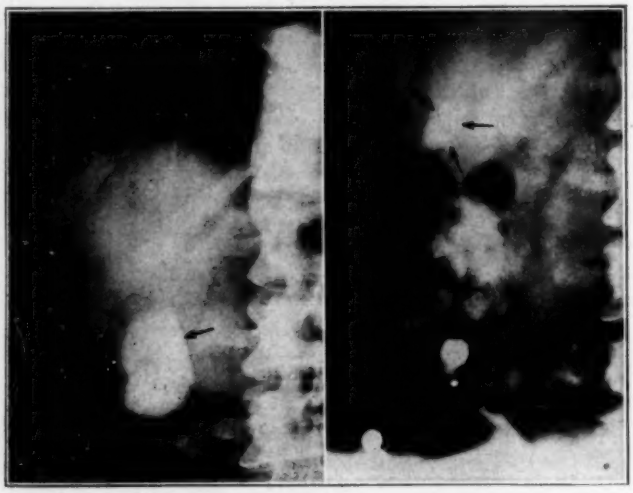

Fig. 1.—Oral method: normal gallbladder; left, sixteen hour film, patient fasting; right, same patient one hour after taking food rich in fat (butter). The marked reduction in size of shadow may be noted; this illustration should be compared with Figures 6 and 7.

"enteric" coating is necessary because the salt is sufficiently irritating to the gastric mucosa to produce nausea and vomiting. It seemed that pills would be superior to capsules for the reason that with capsules the concentrated salt would come in contact with the intestinal mucosa on solution of the capsule, while the pill mass, breaking up more slowly, the salt being dissolved and diluted meanwhile, would be less irritating. Phenyl salicylate was the first coating material used but was not ideal, partly on account of the slight danger of poisoning from phenyl salicylate, but chiefly from the fact that its low melting point might cause the pills to be spoiled if stored in a warm place. Stearic acid, which is being used at present, does not have these disadvantages, and appears to work very well. Menees and Robinson,[7] who were the first to develop an oral method for cholecystography (using sodium tetrabromphenolphthalein) have employed, with good results, formaldehyd-treated capsules as an "enteric" coating, the salt having been made into a thin paste with olive oil before being put into the capsules.

The dosage we have used with the iodin salt in stearic acid coated pills is 5 grains (one pill) for each 10 pounds of body weight (up to twenty pills) in stout patients (0.3 gm. for each 4.5 kg.), and 5 grains for each 12 to 15 pounds of body weight in thin patients (0.3 gm. for each 5.4 to 6.8 kg.). These are larger doses than those now being given by others, but we believe that the necessity for reliability of the test outweighs the discomfort due to symptoms of gastrointestinal irritation which sometimes occur, though they are never dangerous. The instructions to the patient for the oral administration are as follows: A light supper without meat is eaten at 6 p. m. Starting at 8 p. m., four pills are taken with half a glass of water every half hour until the required number is taken. During this process the patient should lie on his right side and for an hour or more thereafter, drinking considerable water until bedtime. (This facilitates the passage of the pills through the pylorus.) The pills must not be broken. No cathartic must be taken. No food must be eaten until after the first roentgenogram is made.

The roentgenographic technic is that usually employed for gallbladder work, the Bucky diaphragm being used, and several exposures being made at a sitting. The first roentgenogram is made from sixteen to eighteen hours after the first pills were taken. If a good shadow is obtained, food containing fat is given and another roentgenogram made an hour later. Reduction of the shadow in size indicates that the gallbladder wall maintains its elasticity (Fig. 4). If, in addition, the shadow is homogeneous with a regular outline, the gallbladder is considered normal. If, on the other hand, no shadow has been produced, or it is very faint or persists longer than twenty-four hours, the gallbladder is probably abnormal. If the shadow is mottled with "negative" areas, stones are indicated (Fig. 3). In doubtful cases the results should be verified by the use of the intravenous method, which is slightly more accurate than the oral method.

Of the first 100 persons given the drug orally, sixty-eight suffered no reaction, eight had nausea, twelve had nausea and vomiting, and twelve had diarrhea. None of the reactions were severe enough to be at all alarming. Out of twenty-five supposedly normal subjects in

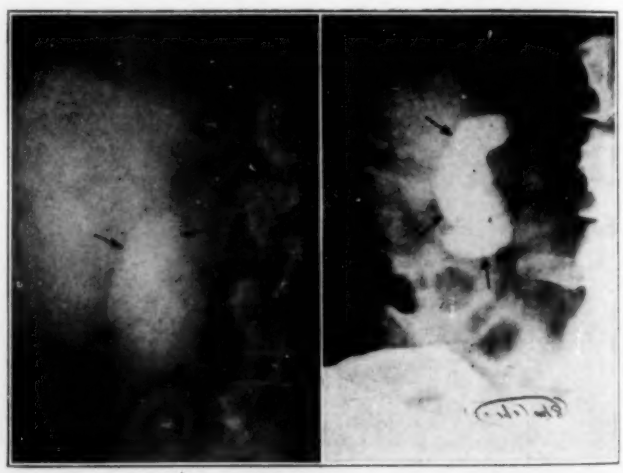

Fig. 2.—Intravenous method: left, six hour film; the irregular shape and mottling in lower end of shadow may be noted; right, irregularity and mottling still seen, indicating adhesions and stones, but the shadow is reduced in size one hour after eating fat, showing that, although pathologic, the gallbladder wall maintains some of its elasticity.

the series, twenty-three showed gallbladder shadows. With approximately half of the seventy-five patients, no shadows were obtained. Most of these, however, had histories suggestive of gallbladder disease. Out of thirteen of these patients showing no shadow by the oral method, eleven were subsequently checked up by the intravenous method and shown to have a pathologic condition of the gallbladder.

6. Whitaker, Milliken and Vogt (Footnote 5, second reference).

7. Menees, T. O., and Robinson, H. O.: Oral Administration of Sodium Tetrabromphenolphthalein: Preliminary Report, Am. J. Roentgenol. **13**: 368 (April) 1925.

We believe that the intravenous use of sodium tetraiodophenolphthalein is a safe and reliable diagnostic procedure. The advantage of the oral method as compared with the intravenous is that, though not as reliable, it is more convenient and can be used in ambulatory patients. By employing it we can rule out a large proportion of normal persons suspected of having gallbladder disease.

CHOLECYSTOGRAPHY AS A MEANS FOR INVESTIGATION OF GALLBLADDER FUNCTION

Previous to the discovery of cholecystography by Graham and Cole, the human gallbladder could be

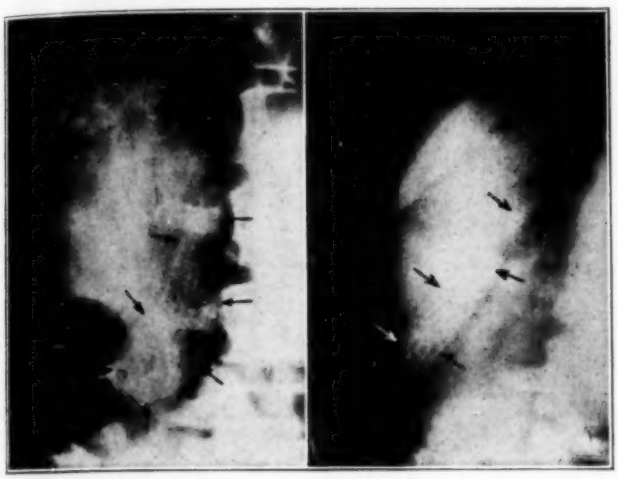

Fig. 3.—Oral method: left, sixteen hour film, faint shadow of gallbladder with mottling (stones); right, one hour after taking mixed food shadow is shrunken in size. The faintness of the shadow and the mottling indicate a pathologic gallbladder, yet, as in Figure 2, the reduction in size of shadow after food shows elasticity of gallbladder wall still present.

inspected only at the time of operation and then under unfavorable conditions. This method, however, permits us to study the gallbladder without disturbing in any way its normal physiologic environment.

The rapid reduction in size of the cholecystic shadow after the ingestion of food suggested an investigation of the effect of the various food elements and of certain drugs on the shadow, which is now being carried out in the department of roentgenology at the Peter Bent Brigham Hospital, under the direction of Dr. M. C. Sosman, and will subsequently be reported in detail.[8]

The first demonstration that complete collapse of the gallbladder in mammals could be induced naturally, by appropriate food, was made by an anatomist, Dr. Edward A. Boyden of the Harvard Medical School. In a paper[9] presented at the December, 1922, meeting of the American Association for the Advancement of Science, he showed that a meal rich in fat (egg-yolk and cream) "induces the following cycle of changes in the gallbladder of the cat: (1) a period of slow emptying (two hours); (2) a collapsed or resting period marked by a rearrangement of the mucosa (five hours), and (3) a period of rapid filling and bile concentration." In contradistinction to the effect of fats, he found that pure protein (in the form of egg-white) or carbohydrate (in the form of rice flavored with Liebig's extract) failed to produce any marked diminution in the size of a distended gallbladder. Mixed and superimposed diets produced various modifications of this cycle. In advance of final publication, Dr. Boyden has kindly placed all his results at our disposal.

The results so far obtained by Dr. Sosman and his associates with cholecystography in man and others of us[8] with the dog amply confirm Dr. Boyden's work with the cat. Mixed foods caused a reduction of the shadow beginning approximately thirty minutes after ingestion, which was at a maximum after two hours. Of the food elements, fat invariably produced the most marked reduction (Fig. 1); peptone and meat protein, a moderate reduction; egg albumin, slight reduction; starch, no reduction in three out of four cases; the various sugars, no reduction. A mixture of egg-yolk and cream (Boyden meal) caused the most rapid reduction, with complete disappearance of the shadow in from two to three hours, which normally required about twenty-four hours (Fig. 4).

Hydrochloric acid by mouth and duodenal tube effected no change in the cholecystogram. Sodium bicarbonate by mouth caused a slight increase in size of the shadow; by duodenal tube it produced no change.

Magnesium sulphate intraduodenally produced moderate reduction of the shadow, but by mouth in one case, no change.

Alcohol gave conflicting results, since it produced a slight reduction in one case and a questionable increase in the size of the shadow in another.

No definite effect on the cholecystogram was produced by atropin, pilocarpin, pituitary extract or epinephrin.

On account of the much discussed Meltzer-Lyon test and nonsurgical biliary drainage, magnesium sulphate was one of the first substances considered. Silverman and Menville[10] had previously published the results

Fig. 4.—Oral method: normal gallbladder; left, sixteen hour film showing a large homogeneous shadow (except for gas in intestine) with a regular outline; right, tremendous reduction in size of the shadow one hour and forty minutes after taking food rich in fat (egg yolks and cream); the shadow had completely disappeared in three hours.

of an investigation on this problem by means of sodium tetrabromphenolphthalein from which they concluded that, "since nonsurgical biliary drainage reduces the size and alters the shape of the gallbladder, drainage of the gallbladder (after intraduodenal magnesium sul-

8. Edson, P. J.; Vogt, E. C., and Whitaker, L. R.: The Physiology of the Gallbladder: A Cholecystographic Study, Department of Roentgenology, Peter Bent Brigham Hospital and Laboratory for Surgical Research, Harvard Medical School.

9. Boyden, E. A.: Abstr., Anat. Rec. **24**: 388-389 (Jan.) 1923. To be published in full (Anat. Rec., August, 1925) as the Effect of Natural Foods on the Distention of the Gallbladder, with a Note on the Changing Pattern of the Mucosa under Distention and Collapse.

10. Silverman, D. N., and Menville, L. J.: Observations of Visualized Gallbladder by the Graham Method with Reference to the Effect of Nonsurgical Biliary Drainage: Preliminary Report, J. A. M. A. **84**: 416-418 (Feb. 7) 1925.

phate) does take place." We have confirmed this opinion, but we have found that almost invariably the decrease in the size of the gallbladder shadow is greater after the patient has taken food (Fig. 5), especially fat, than after the intraduodenal injection of magnesium sulphate (Fig. 6). This raises a question as to the value of nonsurgical biliary drainage by such means. Why subject a patient to the discomfort of the duodenal tube if the gallbladder drains just as well every time he eats? (Compare Figs. 1, 4 and 5 with 6 and 7.)

Fig. 5.—Intravenous method: normal gallbladder; left, nine hour film; right, reduction in size of shadow two and one half hours after taking mixed food. Same subject as in Figure 6.

As stated in a previous paper,[11] the rapid reduction of the cholecystic shadow after the ingestion of food seemed to indicate an outpouring of bile from the gallbladder for digestion. In many instances, both with patients and with dogs, we have seen such marked reduction and rapid disappearance of the shadow after the giving of food as to leave little doubt that we were dealing with an emptying of the gallbladder through its duct and not merely with the absorption of bile through its wall. We would consider this obvious were it not for the ingenious theory recently proposed by Sweet[12] in this country and Halpert[13] at Prague (now at Johns Hopkins) that no bile which enters the gallbladder ever leaves it by way of the cystic duct—the former author basing his contentions on the mechanical hindrances to the outflow of the bile and the known capacity of the gallbladder for concentration; the latter finding in this theory the best explanation for most pathologic conditions of the gallbladder, including the formation of calculi. But other workers have presented evidence contradictory to this belief. That the absorption of substances somewhat comparable to cholesterol is a very slow process has been brought out by Mentzer,[14] who found that in dogs a very little emulsified milk fat stained with sudan III was absorbed into the blood vessels of the gallbladder in three hours.

Copher[15] also has observed that by ligating the common bile duct in dogs after a shadow of the gallbladder had been produced by sodium tetrabromphenolphthalein, the shadow was retained for several days, whereas normally it disappears in from thirty to forty hours. This indicates that the absorption of substances like tetrabromphenolphthalein from the gallbladder is a very slow process.

Conversely, Maddock and I[11] have found in dogs that only very questionable shadows of the gallbladder could be produced with sodium tetra-iodophenolphthalein after the common bile duct had been ligated, which may indicate that the absorption of concentrated bile from the gallbladder is not rapid enough to let in through the cystic duct a sufficient quantity of bile containing the dye to produce a shadow.

Further evidence on the question as to the relation of absorption to emptying of the gallbladder is furnished by the correlation of observations made in a case of Dr. Menees and in two of ours. Dr. Menees found, with a patient showing stones, who had been seized with biliary colic after a cholecystic shadow had been produced, that the shadow remained for twenty-one days, when the patient was lost sight of. Presumably, a stone had blocked the cystic duct, and the pathologic gallbladder could not absorb the dye. We observed that in two patients with gallbladders containing stones, also presumably pathologic, the shadow was markedly reduced in size one hour after the ingestion of fat (Figs. 2 and 3). The inference is that the contents of the gallbladder in those cases found their way out by some other route than by absorption—probably through the cystic duct.

In justice to those who hold that the gallbladder empties only by absorption of its bile it should be said that, as observed by Menees and ourselves, the cholecystic shadow in normal subjects often becomes slightly denser as it decreases in size after the ingestion of food. This could, however, simply indicate a more rapid concentration of the contents of the gallbladder during digestion. The foregoing evidence indicates that emptying of the gallbladder by absorption is not probable, while the following seems to prove that it empties through the cystic duct.

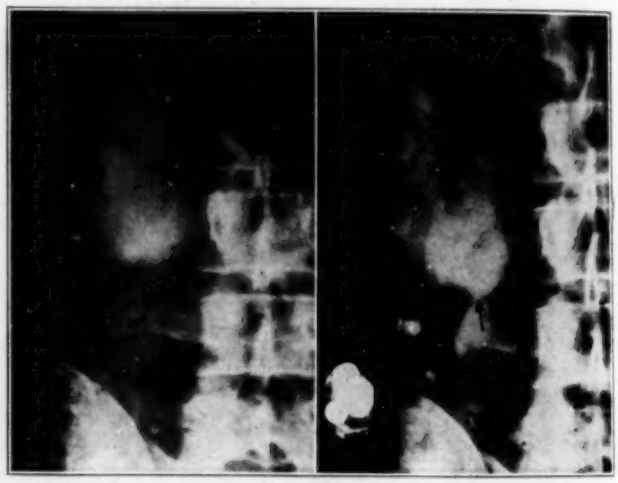

Fig. 6.—Oral method: same subject as in Figure 5; left, sixteen hour film; right, two hours after intraduodenal injection of magnesium sulphate; the amount of reduction in size of shadow should be compared with that in Figure 5.

In freshly laparotomized cats, which have been fasting, dark green bile from the gallbladder may frequently be seen in the cystic duct and sometimes extending even to the lower end of the common bile duct, while the hepatic ducts are filled with yellow

11. Milliken and Whitaker (Footnote 5, first reference).
12. Sweet, J. E.: The Gallbladder; Its Past, Present and Future (Mutter Lecture, Philadelphia, Dec. 7, 1924, Internat. Clin. **1**, Series 34.
13. Halpert, B.: Neue Wege in der Gallenblasenforschung, I, Orthologie der extrahepatischen Gallenwege, II, Zur Orthologie and Pathologie die Gallenwege, Med. Klin., 1924, Nos. 13 and 52.
14. Mentzer, S. H.: Cholesterosis of the Gallbladder and Pathogenesis of Biliary Calculi, Read before the American Association of Pathologists and Bacteriologists, Washington, D. C., May 6, 1925.
15. Copher, G. H.: Cholecystography: Appearance and Disappearance of Shadow, J. A. M. A. **84**: 1563-1564 (May 23) 1925.

bile; and once we had the experience of seeing (a moment after the liver of an anesthetized cat had been carefully lifted out of the body cavity) the dark green bile from the gallbladder suddenly shoot down the thin walled cystic duct and common duct into the duodenum. These observations agree with the evidence from the Meltzer-Lyon test by which dark green bile is collected from the duodenum following the intraduodenal injection of magnesium sulphate. Winkelstein and Aschner[16] have shown in dogs that eighteen hours after the injection of methylene blue into the gallbladder, with a cannula in the ampulla of Vater, the dye could be found in the intestine; and also that twenty-one hours after the injection of phenoltetrachlorphthalein into the gallbladder, magnesium sulphate or gastric chyme in the duodenum would cause an appearance there of the dye.

Mentzer[14] has also observed in dogs that emulsified milk fat stained with sudan III after being injected into the gallbladder appeared at the sphincter of Oddi in three hours.

Furthermore, Abramson,[17] after injecting neosilvol into the ballbladder of a dog through a cholecystostomy tube fixed in place five days previously, noted by fluoroscopy that after ten minutes globules of the opaque solution passed down the cystic duct and common duct and into the duodenum. Using iodized oil in the same manner, except first feeding the dog a meal rich in fat and taking roentgenograms at intervals, we have confirmed this finding, not only observing the opaque oil in the ducts at intervals after ingestion of the meal, but at the same time noting a very marked decrease in the size of the gallbladder.

Fig. 7.—Oral method; normal gallbladder; left, sixteen hour film; right, two hours after the intraduodenal injection of magnesium sulphate; the amount of reduction in size of shadow should be compared with that in Figures 1 and 4.

These links of evidence then—that absorption from the gallbladder of substances other than water is a very slow process, and that bile can leave by way of the cystic duct, together with the evidence from Dr. Boyden's work with cats and ours by the use of cholecystography that the gallbladder can be made to empty in from three to six hours by the ingestion of fat—would seem to forge a chain of proof that, in response to an appropriate food stimulus, the gallbladder pours out its contents into the duodenum.

SUMMARY

1. Sodium tetra-iodophenolphthalein is, we believe, the most satisfactory medium so far employed for the purpose of cholecystography.

2. The intravenous method of administration is very reliable, and is not dangerous. The oral method is simpler and more widely applicable, though not quite so accurate as the intravenous.

3. Cholecystography furnishes a means for the study of gallbladder function. Our observations supported by others seem to prove that the gallbladder empties its contents into the duodenum, after the ingestion of foods rich in fat, for the purpose of digestion.

4. Evidence has also been obtained which reflects doubt on the value of nonsurgical biliary drainage by magnesium sulphate, since the gallbladder drains more completely after the ingestion of fat than after the intraduodenal administration of that drug.

16. Winkelstein, A., and Aschner, P. W.: Experimental Studies on the Entrance of Bile into the Duodenum, Am. J. M. Sc. **169**: 679 (May) 1925.

17. Abramson, H. A.: Visualization of the Gallbladder of the Dog by the Roentgen Ray, Proc. Soc. Exper. Biol. & Med. **21**: 407, 1923-1924.

ABSTRACT OF DISCUSSION

DR. GEORGE E. PFAHLER, Philadelphia: Were any tests made on the emptying time of the gallbladder in pathologic conditions by means of this Boyden meal?

DR. LESTER R. WHITAKER, Boston: The patient with gallstones, who had a shrunken gallbladder, did not have the Boyden meal. She had ordinary food fairly rich in fat, bread and butter and cocoa. I do not doubt that the Boyden meal would have been more effective, but this is all the evidence we have on that question.

DR. C. E. PIERSALL, Reno, Nevada: Were any controls made showing how promptly the gallbladder will empty if the patient fasts? One patient (and it happened to be the first case in which I tried this injection of tetrabromphenolphthalein) acted so violently while the dye was being injected that only 5 c.c. was administered. Before that injection, we took several gallbladder films and also studied the gastrointestinal tract. A pathologic condition of the gallbladder was evident from gastrointestinal study, but we were not able to show stones in the gallbladder. After the injection with dye we thought we saw several stones in the gallbladder. At operation there were no stones there, but there were stones in the head of the pancreas.

DR. LESTER R. WHITAKER, Boston: In regard to the question of controls as to how long the gallbladder shadow remained with the patient fasting, I must admit that we do not have any controls of that on patients because they will not fast. I mean they are so hungry that they insist on eating soon after the test; but normally, when the patient eats a regular diet, the gallbladder shadow lasts for about twenty-four hours, as against from two to four hours after the Boyden meal. Dr. Boyden found that the gallbladder in cats will remain distended while the animals are fasting. I do not know just how long he has kept them without food, but as long as he does the gallbladder remains full.

Cause of Stealing.—There is a common form of stealing in which money and articles of value are stolen from the parents, and the parents only. In such cases it is almost certain the parents are depriving the child of something to which it has a right, such as proper arrangements for fresh air, exercise or suitable recreation, or even proper education, or education in some special accomplishment, suited to the child's station in life. Among such unsatisfactory parents we can include well-to-do people who never give their children any pocket-money, but spend freely on themselves. In many cases of juvenile delinquency, the problem is the parents.—Potts, W. A.: *J. Ment. Sc.* **71**:677 (Oct.) 1925.

PERINEAL PROSTATECTOMY

TWENTY-FIVE YEARS' EXPERIENCE WITH THE AUTHOR'S TECHNIC

PARKER SYMS, M.D.
NEW YORK

In 1900, I described a method of performing prostatectomy which I had developed at that time. As twenty-five years have elapsed, it seems opportune to review the subject.

The changes from the original method are to be found in: (1) the examination and preoperative care of the patient; (2) the method of anesthesia; (3) the details of the operative technic, and (4) the postoperative treatment of the patient.

EXAMINATION AND PREPARATION OF THE PATIENT

My present procedure in connection with examining and preparing the patient can be summed up as follows:

Fig. 1.—Posterior surface of sacrum; needle in hiatus sacralis.

1. A history is taken carefully and a general examination of the patient made.

2. A rectal examination is made to determine whether or not the patient has an enlarged prostate and whether or not the prostate appears to be cancerous.

3. A catheter is introduced gently to determine whether or not the patient has residual urine, and if so how much.

4. A Wassermann test and other examinations are made to exclude the question of bladder crisis due to tabes.

5. A roentgenogram is taken to determine the question of calculus.

6. An examination is made to determine the condition of the cardiovascular system. Blood pressure is an important item. The cystoscope should not be employed at this stage of the proceedings.

7. The most essential thing to determine is the condition of the kidneys.

Most of our knowledge of the physiologic effects of back pressure on the kidneys has been developed within the last few years. The same is true as to our knowledge of kidney efficiency and inefficiency. The study of blood chemistry and the various kidney function tests are nearly all new. They were not at our command twenty-five years ago. A careful examination of the kidney function should be employed in every one of these cases; if it is found to be below par, proper treatment must be instituted before operation is attempted.

Prostatic obstruction, producing residual urine and frequent and difficult urination, results in back pressure which is transmitted through the ureters to the kidney pelvis. Normally, the hydrostatic pressure in the ureters is zero.

As this back pressure leads to disturbance of kidney function and later to damage of the kidney structure, it should be relieved; and this should be done by gradual, never sudden, decompression of the kidneys. It may be accomplished by systematic catheterization. If not, drainage should be instituted. The best way is by the introduction of a self retaining catheter through a perineal section. The bladder sphincter being intact, the reduction of pressure can be controlled at will.

Fig. 2.—Lateral view of sacrum; needle entering canal.

If the bladder is opened suprapubically, the patient will have all the dangers of sudden decompression which would be attendant on a one stage suprapubic prostatectomy.

In my opinion, the two stage operation should not be resorted to as a routine. It should be reserved for cases in which it is needed; and when it is employed, the bladder drainage should be through the perineum and not through a suprapubic cystotomy.

While full heed should be given to chemical examination of the blood and to all the kidney function tests,

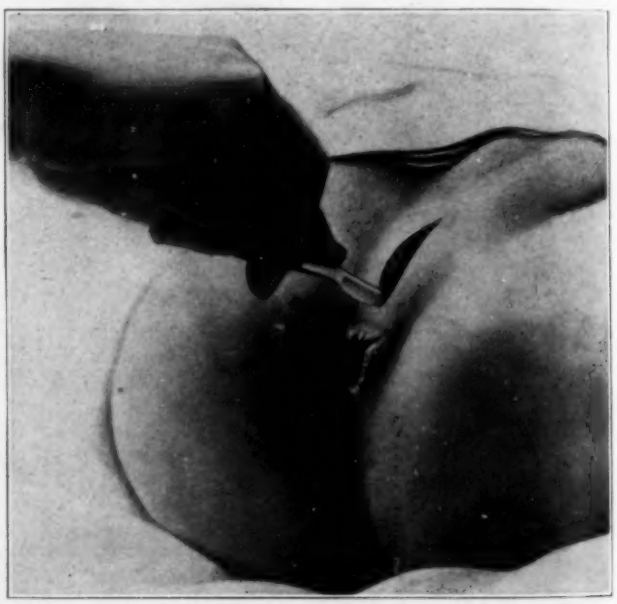

Fig. 3.—Simple median incision in perineum. There is no dissection and only a single sweep of the knife.

I feel that we can be quite liberal in our interpretations because we do not use a general anesthetic. Sacral anesthesia has given us a new opportunity.

A patient who can improve from a low level to a higher one, though his condition is not ideal, may be considered a safe risk. These patients should be given

large quantities of fluids, and careful attention to their bowels is important.

Repeated blood examinations and kidney function tests should be made, and when the patient appears to be at his optimum, if his condition may be considered reasonably satisfactory, we can proceed with the prostatectomy with little anxiety; for median perineal

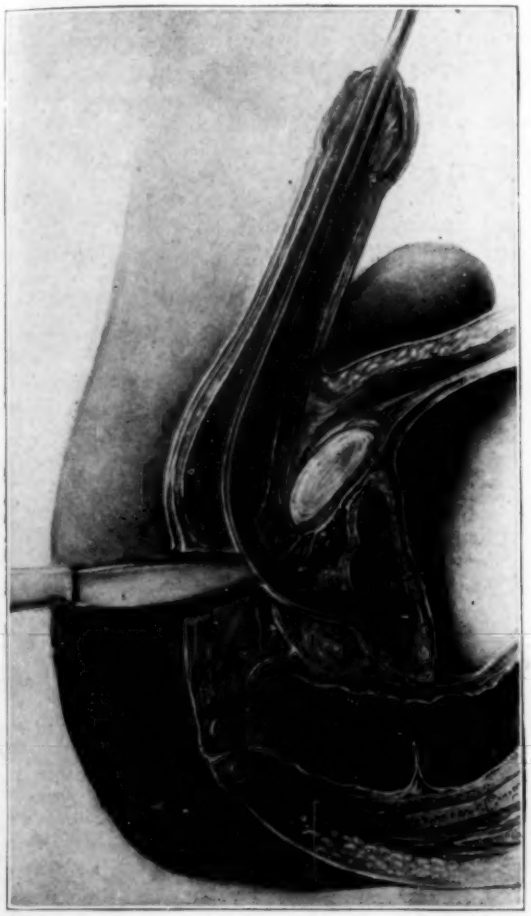

Fig. 4.—Knife entering the lithotomy staff and dividing the membranous urethra.

prostatectomy, under sacral anesthesia, entails very little risk.

THE CYSTOSCOPE

The cystoscope is not necessary for the diagnosis of prostatic obstruction, but it may be of great aid in detecting intravesical conditions associated with or attendant on it, such as calculi, diverticula and neoplasms. It should be employed in these cases only when we are about to operate. The introduction of a straight, rigid instrument through a tortuous, obstructed canal means a certain amount of traumatism.

This will be of little moment when the bladder is about to be opened and drained. Otherwise, it may and often does result disastrously. Again, there is no need of producing sacral anesthesia twice when everything necessary can be done under one administration.

ANESTHETIC

To my mind nothing more important has been contributed to the safety of these patients than is to be found in the employment of sacral anesthesia.

Thoroughly satisfactory anesthesia can be produced in nearly 100 per cent. of the cases by the simple injection of a proper solution of procain into the sacral canal. If found necessary, parasacral injections can be supplemented.

Sacral anesthesia has practically done away with pneumonia as a hazard, and it has done away with the dangers of uremia which could be attributed to the administration of a general anesthetic. It has taken many patients out of the inoperable class. In fact, it is one of the greatest boons to perineal prostatectomy.[1]

OPERATIVE TECHNIC

As to the technic of the operation itself, I have made really very little change. I have always employed a median perineal section.

At one time I made a transverse incision through the sheath of the prostate, through which the lobes were exposed and enucleated. Now I make a vertical incision through the sheath on either side and enucleate first one lobe and then the other.

For a long time, I employed my rubber tractor, and I would be glad to do so still, but I have found great difficulty in having it properly manufactured. Today, I use Hugh Young's tractor, which is a fairly satisfactory substitute.

At one time, I employed a large double drainage tube so that the bladder could be constantly flushed. At present, I use a small perineal catheter, for I scarcely irrigate the bladder at all.

Formerly, I used a large amount of packing in the wound. Today, I pack the wound very loosely; of course, this packing is simply introduced into the sheath, into the spaces from which the prostate was removed.

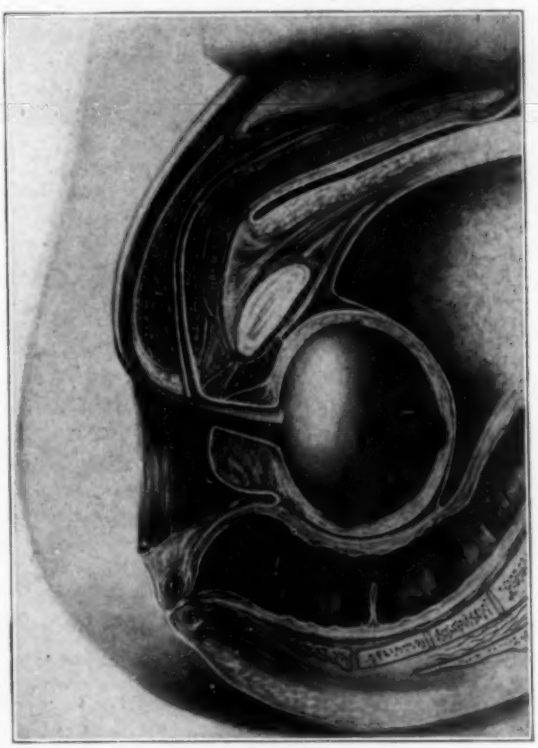

Fig. 5.—Syms' rubber tractor within the bladder, pulling prostate toward the surface.

The temporary suture which holds the packing in is tied loosely so as not to dam blood back into the bladder.

1. Details as to the administration of sacral anesthesia may be found in the following: Syms, Parker: Sacral Anesthesia, A Preliminary Report, M. Rec. **95**: 991 (June 14) 1919; Sacral Anesthesia as Applied to Genito-Urinary Surgery, Internat. J. Surg., June, 1921; Prostatectomy Under Sacral Anesthesia, New York State J. Med. **24**: 843 (Sept.) 1924.

The operation is performed with the aid of vision and is undoubtedly accomplished with more precision than in earlier years.

My present method of operating can be described under the following steps:

1. Sacral anesthesia having been administered, and with the patient in the lithotomy position, a Little's lithotomy staff is introduced into the bladder. A median perineal section is made, extending from just behind the bulb to a point just in front of the rectum. A narrow scalpel is introduced into the groove of the staff, and the membranous urethra is opened to the apex of the prostate.

2. The prostatic urethra is dilated by passing the index finger into the bladder. A Young's tractor is introduced into the bladder and by blunt dissection all the tissues overlying the rectum are pushed back, exposing the dome shaped sheath covering the prostate.

3. With the wound held open with right angle retractors, a vertical incision is made through the sheath, on each side of the median line. The incisions expose the prostatic lobes, which can be clearly seen and recognized. The lobes are enucleated through these vertical openings, care being taken to work close to the lobes and not to lacerate or tear the sheath which contains the venous plexus.

Fig. 6. — Hugh Young's tractor in situ. Incision in sheath of prostate ready for enucleation.

4. The tractor is withdrawn and the finger is introduced into the bladder to explore for intravesical lobes. A pedunculated lobe can be readily pulled through the bladder neck and removed in plain sight.

5. A 30 F. catheter is introduced into the bladder through the open urethra. A light gauze packing is inserted into the spaces from which the lobes have been removed. A silkworm suture tied around the catheter secures it to the upper part of the wound. A single suture, tied loosely, is placed near the middle of the wound. These sutures are temporary.

Median perineal prostatectomy as I perform it is as simple as can be, and there is no danger of wounding the rectum. Ample and satisfactory exposure can be obtained so that the work is done under vision.

The wound, being an open one, is as free as may be from the danger of infection and inflammation.

Perineal prostatectomy is conceded to show a smaller death rate than suprapubic prostatectomy.

One author has reported 198 consecutive cases without a death. This cannot be attributed to the personal skill of this operator, for while he was exclusively performing suprapubic prostatectomies his mortality rate was high.

The final functional results, as far as the bladder is concerned, are as good as those following suprapubic prostatectomy, if not better. It has been many years since I have had any failures in this particular.

As to convalescence, there can be no comparison, as to both brevity and comfort. I am justified in expecting my patients to be out of bed within from twenty-four to forty-eight hours after operation, to have bladder control and to be able to go about in comfort within a week.

In 1917,[2] I reported a case of a patient who acted as a guide, bringing several other patients to the Academy of Medicine from the Bronx, one week from the day of his operation. He was practically a well man.

Recently, my neighbor, Dr. J. Bayard Clark, has been interested with me in some patients who were able to report to the office within five or six days from the time of their operations.

At that period they had open, but healing, simple perineal wounds. They had restored bladder function. They could hold their urine. They could wear their clothes and go about in normal comfort.

Dr. F. M. of Cuba, N. Y., came to my office on the sixth day after his operation. He said he could have come perfectly well the first day; his tube was out and he had good bladder control.

It is high time for genito-urinary surgeons to weigh the facts as to the comparative merits of suprapubic and perineal prostatectomy. They should familiarize themselves with the different methods and use the best.

In my opinion, suprapubic prostatectomy should be abandoned as a routine procedure.

114 East Fifty-Fourth Street.

OSTEOMYELITIS OF THE FRONTAL BONE AS A COMPLICATION OF FRONTAL SINUSITIS *

ALBERT E. BULSON, JR., M.D.
FORT WAYNE, IND.

Osteomyelitis of the frontal bone as a complication of frontal sinus suppuration is a relatively rare condition. A search of much of the American and European literature for thirty years back discloses reports of a total of fifty-five cases, in thirty-seven of which death occurred. The nature and the etiology of some of those cases may be questioned, owing to the incompleteness of the reports. Out of this total number of fifty-five cases, twenty-eight may be classed as occurring as a complication of chronic suppuration of the frontal sinus, twenty-one of which resulted in death and seven in recovery. In only eight of these twenty-eight chronic cases, in all of which operation was performed, was osteomyelitis discovered at the time of the first operation; four of the eight patients died and four recovered. In twenty cases, the osteomyelitis developed subsequent to operative attention for the sinusitis, and subsequently required operation for the osteomyelitis, the result being seventeen deaths and three recoveries. Gerber,[1] in his analysis of cases in 1909, found a similar proportion of cases of osteomyelitis developing subsequent to operative intervention, and was led to make the remark: "What operative error is responsible for this grave sequel we do not know, for it befalls all, old experienced operators as well as tyros."

Of this total of fifty-five cases, twenty-seven occurred as a complication of acute suppuration of the frontal sinus (in all of which operation was performed), resulting in sixteen deaths and eleven recoveries. In eighteen of the acute cases, the osteomyelitis was discovered at

2. Syms, Parker: Ann. Surg. **65**: 382, 1917.

* Read before the American Academy of Ophthalmology and Otolaryngology, at Chicago, Oct. 21, 1925.

1. Gerber, P. H.: Osteomyelitis, Berlin, S. Karger, 1909, pp. 125-140.

operation, and resulted in ten deaths and eight recoveries. Nine of the twenty-seven patients having acute osteomyelitis developed the disease after the first operation, and of these six died and three recovered. Three of the acute cases were what may be called spontaneous or fulminating osteomyelitis occurring coincidentally with the development of the acute frontal sinusitis, all of which resulted in death. These spontaneous cases occurred without evidence or history of previous nasal trouble, though it is quite possible and even probable that most of them may have occurred as a direct result of lighting up a latent infection of which previously there had been no discoverable evidence. At all events, while osteomyelitis of the frontal bone under any circumstances is a comparatively rare and serious affection, as evidenced by the limited number of cases reported in American and European literature, those cases which develop spontaneously or fulminantly are still rarer, with death resulting in all cases reported. It is one of the latter, with recovery of the patient, that I report here.

D. I., aged 20, a motor inspector, was referred to me by the General Electric Company, Aug. 16, 1924. The previous history was negative, the patient having had neither serious illness nor nasal trouble. Late in the afternoon of August 14, he received a comparatively mild blow from a screw which slipped and flew from a screw driver, striking him at the root of the nose, just beneath the left eyebrow, but without producing a visible wound of the skin surface or even evidence of a bruise. Four or five hours after the accident, there was some localized headache in the left frontal region, and the following morning, about fourteen hours after the accident, there was considerable swelling at the root of the nose, between the eyes, and an increase in the general left-sided headache, for which the family physician prescribed sedatives. On the following day, both the pain and the swelling had increased and the patient had 2 degrees of fever.

On the third day, when I first saw the patient, the symptoms were more marked, and the edema involved the left upper eyelid and extended to a point on the forehead about 1 inch above the root of the nose. There was also considerable congestion and chemosis of both the ocular and the palpebral conjunctiva. As a localized infection of the orbit was suspected, a deep incision was carried into the orbit just above the inner canthus, but not penetrating the bone, with the evacuation of a small quantity of serosanguineous fluid. The wound was injected with a 5 per cent. alcoholic solution of mercurochrome-220 soluble, and hot moist compresses were ordered.

On the following day, less than four days after the injury, all the symptoms and manifestations were more marked; the edema extended upward nearly to the hairline and over the left temple, and the eye was closed from edema of the surrounding tissues. The patient was very nervous, with a temperature of 100.2, and a pulse of 120. Thirty grains (2 gm.) of sodium salicylate was administered intravenously, and the patient was sent to the Fort Wayne Medical Laboratory, where Dr. E. M. Van Buskirk made a roentgenographic examination.

On the following day, in another deep incision at the root of the nose, just beneath the eyebrow, softened bone and an abundance of pus were discovered. At this time, the nose was free from any evidence of sinus involvement, but later in the day the roentgenologist's report was received and indicated that the left frontal sinus contained pus, and the anterior bony wall was involved. The sinus was then opened intranasally, a good sized opening being established, and a considerable quantity of pus evacuated through the nose. At that time, there was a large boggy swelling, involving all the tissues from the inferior bony orbit upward to the hairline, and from the median line of the forehead nearly over to the left ear. Dr. B. W. Rhamy of the Fort Wayne Medical Laboratory reported that the pus in the frontal sinus showed a pure pneumococcus infection. The patient was sent to the Methodist Hospital (previously he had refused to go to the hospital), the wound was irrigated with 5 per cent. alcoholic solution of mercurochrome, and steaming hot compresses were ordered. Dr. Rhamy reported a negative Wassermann reaction, and a white cell count of 12,400.

August 24, after a bad night, when the temperature was 104 and the pulse, 130, the incision at the root of the nose was enlarged, with the removal of several pieces of softened bone and a considerable quantity of pus. Incisions also were made deep into the orbit above, and to the outer side near the external canthus, pus being evacuated from both incisions. The patient and relatives refused a radical operation.

From August 22 to August 30, there was a free discharge of pus from the three wounds that were kept open with drainage, and there was a gradual decrease in the edema and a drop in the temperature to nearly normal. Except during the first few days, the patient had experienced little or no pain. The patient insisted on leaving the hospital, September 1,

Fig. 1.—Condition, Aug. 18, 1924: *A*, broken down bone with fistula between; *B*, cloudiness of the frontal sinus.

at which time there was a free opening into the left frontal sinus at the root of the nose, and another small fistulous opening into the sinus through the orbital plate immediately above the eyeball, and with a probe, considerable softened bone could be felt in the surrounding area. During the next six weeks, or until October 27, pus exuded from the three fistulous openings almost constantly, and occasionally a sequestrum of bone would present itself where it could be removed with forceps. The later roentgenograms showed extensive involvement of the frontal bone, including the bony covering of the dura. The pus still showed almost a pure pneumococcus infection.

Finally, the patient was induced to reenter the Methodist Hospital for a radical operation, which was performed, October 27, nearly two and one-half months after the onset of his trouble. A wide incision was made through the eyebrow from the median line well over on the temple, through which the osteomyelitic bone was removed by curettage, which necessitated considerable exposure of the dura. Fortunately, a good portion of the orbital rim seemed to be unaffected, and, in consequence, the resulting deformity was not great. Much of the bony wall had a worm-eaten or honey-combed

appearance, while some of it was merely softened to the extent that it could be wiped out with a gauze sponge. Wherever the osteomyelitic process was found, the curettage was carried down to healthy tissue. The wound was swabbed with 5 per cent. alcoholic solution of mercurochrome, and was left open; rubber tube drainage was provided at the root of the nose. The right frontal sinus was not affected. With the exception of three or four minor curettages and the discharge of several small sequestrums of bone during the succeeding few weeks, the patient went on to a satisfactory recovery. Subsequent roentgenograms disclosed a considerable amount of regeneration, and to the present date he has remained well.

The interesting feature in connection with this case is that the osteomyelitis was of sudden development, and that apparently the inciting cause was trauma, with perhaps injury of the outer bony wall of the frontal sinus at the root of the nose, even though there was no discoverable break in the skin surface. The bone involvement may have come from a latent frontal sinus infection, even though we have no means of proving definitely the route traveled by the infection. However, we know that the infection may travel by two routes, first, direct contiguity of structure, and, second, the vascular route, in both of which instances there is hyperemia of the periosteum, going on to the formation of hemorrhagic foci and the production of subperiosteal abscesses. It is entirely probable, therefore, that there was a latent infection in the frontal sinus, which required only a lowered resisting power and the inciting trauma to start a pyogenic process in the bone structures.

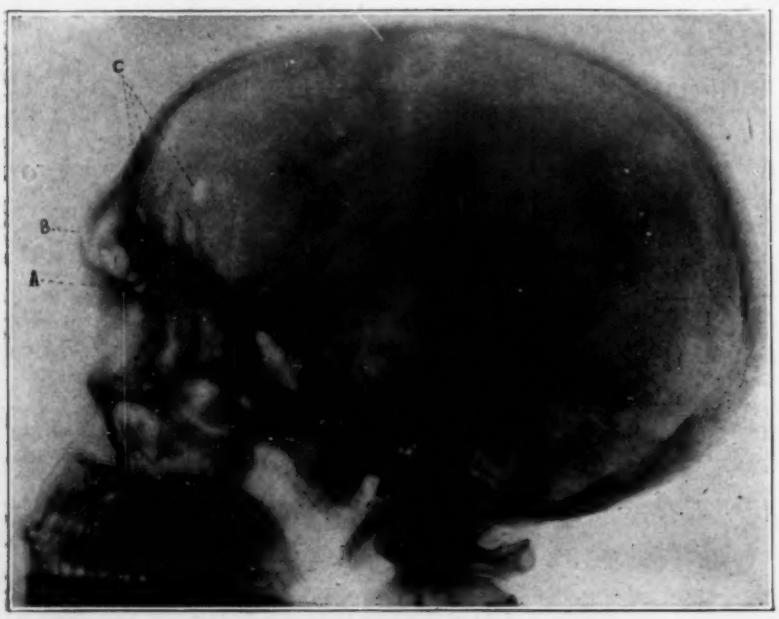

Fig. 2.—Condition, September 29, showing bone tissue breaking down: *A*, fistulous opening through the bone through which has been passed a lead style; *B*, fistulous opening through the bone; *C*, areas of bone destruction.

That osteomyelitis of the frontal bone is serious is evidenced by the death rate already quoted. The disease, as pointed out by Luc,[2] Knapp,[3] Tilley,[4] Schilling,[5] Gerber,[1] McKenzie[6] and others, is an inflammation invading the frontal bone over a wide area, very difficult to control, with the development of osseous abscesses and destruction of the bony tissues. As McKenzie[6] says: "Once osteomyelitis has set in, the only chance of saving the patient's life lies in the prompt and entire removal of the diseased bone. The sacrifice of large sections of the bony cranium need arouse no apprehension, for if the case recovers the defect will be made good very largely by osseous regeneration." As the history of numerous cases reported will show, marked remissions may occur, which lead to a false sense of security. From six to twelve months should elapse before the patient is released from control.

We seldom deal with an unmixed infection, though an analysis of numerous cases presented indicates that pneumococcic and streptococcic infections give the most violent course, are hardest to control, and are most liable to end in a fatality.

Concerning treatment, I believe that most will be accomplished by the open treatment of the wound after thorough removal of all the diseased bone. Ventilation as well as drainage aids the recovery of these pyogenic processes, and I believe that the penetrating and antiseptic effect of some of the dyes, particularly mercurochrome-220 soluble used locally, aids in limiting the progress as well as destroying the infection. I have little faith in vaccines, even though they are supposed to raise the resisting power by building up the tissue defenses against the inroads of the infective process, though I can see no harm in their judicious use. If of value, they would exert their beneficial effect most after the complete removal of the diseased bone.

McKenzie,[6] who, in 1913, published the most extended article on the subject in the English language, and who frankly admits drawing freely from the writings of Schilling,[5] Gerber,[1] Luc[2] and Knapp,[3] comments on the rarity of the affection and its tendency to occur more frequently and be more progressive in patients between the ages of 15 and 30 years, a fact which the author attributes to the great activity of development of the skull bones during adolescence and early life. He mentions the rapid increase in the thickness of the skull, observable toward the end of childhood at the onset of puberty, and that it is during this period that the formation of spongy tissue in the bone largely takes place.

Schilling[5] noted that the infection seems to follow both acute and chronic frontal sinusitis, and reports two cases in which the retention of pus preceded the onset of osteomyelitis, and still others in which the osteomyelitis seemed to be coincident with the onset of the sinusitis.

It is generally conceded that the ways by which the infection extends are by (*a*) continuity, in which, after the destruction of the mucous membrane covering the walls of the sinus, the bone becomes infected by breaking down the wall and extension to the diploe, and (*b*) indirect infection through the capillaries or veins, which are in direct communication between the mucous membrane and the bony walls and diploe of the cranial bones. The infection may be borne directly by the blood stream, or travel along the outside of the vessels as they pass through the bone. Under any circumstances, the virulence of the infection and the

2. Luc: Ann. d. mal de l'oreille et du larynx **35**: 265, 1909; Brit. M. J. **3**: 990 (Oct. 14) 1899.
3. Knapp, Arnold: Arch. Otol. **32**: 181, 1903.
4. Tilley: Brit. M. J. **2**: 990 (Oct. 14) 1899; **2**: 7 (July) 1917; J. Laryngol., Rhinol. & Otol. **38**: 78 (Feb.) 1923.
5. Schilling: Ztschr. f. Ohrenh. **48**: 52, 1904.
6. McKenzie: J. Laryngol., Rhinol. & Otol. **28**: 6, 79 and 129, 1913.

lowered resistance of the tissues may be considered as favoring the involvement of the bone.

That the disease may extend to the temporal, parietal and occipital bones is evidenced by several cases reported in the literature, and the time occupied in this process varied from a few days to months or even years. The dura is involved seriously by the suppuration in the majority of cases. At first the dura is highly

Fig. 3.—Condition, October 10, just before operation: *A*, extensive breaking down of the walls of the frontal sinus and patches of osteomyelitis of frontal bone.

resistant, but after this resistance is overcome, the suppuration may extend to the brain substance and the large cerebral sinuses.

The initial symptoms are local pain, usually due to the suppuration; edematous and painful swelling, associated with more or less rapid extension of the inflammation; rise of temperature; general malaise, and sometimes chills, nausea and vomiting.

Operation for the removal of the disease focus sometimes leads to complete recovery. More often, however, there will be only temporary relief, with the appearance of a focus either adjacent to the previous one, or in what apparently previously was sound tissue. A second operation may bring cure, but more commonly new foci continually arise, with progressive shortening of the pain-free intervals. Changes in the fundus oculi have been noted in some cases. Death usually closes the scene by disease of the brain and meninges, or by pyemia resulting from infection of the blood stream through the sinuses.

Often it is difficult to tell whether one has to deal with an acute attack or the relighting of an old chronic process, as it is well known that the sinusitis may be latent for long periods and even go unrecognized for years. When osteomyelitis follows operative intervention, even in those cases in which, apparently, every diseased bone cell has been removed, it will be found that the diploetic structure of the bone already was compromised so much as to make it impossible to abort the infection. As Guisez,[7] in describing the progress of the affection, says: "At the onset of the infection, an intense congestion is observable, resulting in dilatation of the blood vessels and augmentation of the soft osseous elements. As in all microbic inflammations, considerable leukocytosis develops. This brings about a hyperemia of the periosteum, going on to the formation of hemorrhagic foci, and at the same time an inflammatory subperiosteal edema becomes evident which rapidly denudes the bone by producing subperiosteal abscesses on both its surfaces. This process is characteristic of osteomyelitis of the cranial bones."

It is the opinion of Luc [2] that cranial osteomyelitis takes place only in those subjects presenting developmental anomaly. Not infrequently, the diploe may be destroyed completely and its place taken by a pus collection lying between two lamellae of compact tissue. Such a condition may exist for a considerable length of time before there is a breaking down of the outer hard bony layer, and it is this sort of a bony infection which may escape eradication by operative procedures, and the process goes on, requiring further eradication, perhaps by repeated operations. It is this tendency on the part of the disease to have a hidden infection which has prompted Luc,[2] Schilling,[5] Gerber,[1] McKenzie [6] and others to caution operators to follow the infection wherever it has gone, and not to stop

Fig. 4.—Condition, December 12, after operation: *A*, obliteration of part of walls of sinus; areas of extensive curettage and exposure of dura. Considerable bone regeneration has occurred since operation.

short of eradication of everything down to diseased bone, no matter how wide the dissection required.

McKenzie [6] is inclined to minimize the part played by the diploe of the bone in relation to the sinus, so emphasized by the continental authors, who contend that the proximity of the diploe to the diseased cavity,

7. Guisez: Ann. d. mal. de l'oreille et du larynx **32.**

or its surgical exposure, lays it open to infection. While he believes that the infection may be able to spread more rapidly once the diploe has been reached, he holds that diffuse osteomyelitis is not limited in its spread to diploetic bone only. As the disease spreads, it involves the thin, hard bones of the ethmoid, the lacrimal bone, the nose and the orbit, and does not spare the frontal eminences where the diploetic tissue is attenuated or altogether deficient. The disease may spread in any direction, but the danger zone lies toward the base of the cranium, where so many natural portals pierce the cranial fortifications. Lack of constitutional resistance and extreme virulence of the infecting organism are put forward as reasons why one patient develops osteomyelitis, when another under precisely the same conditions escapes. Once osteomyelitis has set in, the only chance of saving the patient lies in the immediate and entire removal of the diseased bone. The superficial area of the bone resected must exceed the obvious limits of the disease. The resection must be radical, and in doubtful areas it is safer to remove bone than to leave it.

406 West Berry Street.

RECURRENT INOPERABLE CARCINOMA OF THE BREAST

AN ANALYSIS OF THREE HUNDRED AND SIXTY-THREE CASES TREATED BY RADIUM AND ROENTGEN RAY *

BURTON J. LEE, M.D.
AND
NORMAN E. TANNENBAUM, M.D.
NEW YORK

Recurrent, inoperable carcinoma of the breast constitutes the largest group of mammary cancer with which we have to deal. The scar tissue formation consequent on surgical intervention and the multiplicity of lesions make these patients the most difficult type to treat by irradiation. Inoperability, of necessity, makes radiation therapy both the choice and the requisite of treatment.

This paper is a report of the course and an analysis of the treatments of 363 patients with recurrent, inoperable and metastatic carcinomas of the breast who were admitted to the breast clinic of the Memorial Hospital prior to May 1, 1922, allowing an interval of three years or more since they were first observed. Table 1 groups the number of patients who appeared at the clinic.

One of us,[1] in 1922, made a report of the first three of these groups, a total of 218 cases. These patients have been followed, analyzed and included in this study. The preceding report showed that in thirty-one of 124 favorable cases the patients were alive. Our study of the whole group has made it possible to form an opinion of the value of radiation therapy for this phase of mammary cancer and of the results obtained in the treatment of carcinoma of the breast by radical surgery, and has also given insight concerning the natural history of the disease.

The treatment of cancer of the breast by radium and roentgen ray has occupied a prominent place in the literature of radiotherapy. For the most part, authors have considered the subject in its entirety or have evaluated the benefits of preoperative and postoperative irradiation as an adjunct to surgery. But few reports may be found in the literature concerning the results of irradiation in the treatment of the recurrent phases of the disease. Pfahler,[2] in 1920, summed up the value of radium and roentgen-ray therapy for recurrences and metastases from carcinoma of the breast. He believed that radium was the agent of choice in treating recurrent, palpable or metastatic nodules. The roentgen ray was preferred in the general treatment of the carcinomatous area and the pulmonary and mediastinal disease. Hintze,[3] in 1922, reported four cases of recurrent disease, two being inoperable, following radical surgery and prophylactic irradiation with the roentgen ray. Complete regression of the recurrences in these two patients resulted after further roentgen-ray treatments, but the cases were too recent to justify any positive deductions. Hoffmann,[4] in 1921, opposed the use of postoperative prophylactic irradiation and employed roentgen-ray therapy only when metastases had appeared. However, thirteen of the twenty-six continental clinics were still using postoperative irradiation at the time of his report.

TABLE 1.—*Grouping of Three Hundred and Sixty-Three Cases of Breast Cancer*

	Number
Cases prior to 1918	14
Cases of 1918	50
Cases of 1919	75
Cases of 1920	92
Cases of 1921	92
Cases up to May 1, 1922	40

Kastner,[5] in 1921, found that of sixty-nine cases treated only by surgery, 33 per cent. developed recurrence. In two other groups in which postoperative irradiation was employed, from two-thirds to one erythema dose being used, he obtained the following results: Out of twenty-two cases in which insufficient irradiation was used, 36 per cent. developed recurrence, and in forty-two cases in which intensive irradiation was employed, the percentage of recurrence was 48. He has therefore ceased to employ postoperative irradiation. Furthermore, he has found that recurrences appearing after prophylactic irradiation are very refractory to further irradiation. He points out that through such continued irradiation the tumor cells become accustomed to the rays, or "ray fast." For this reason the clinic of the University of Leipzig omits the postoperative therapy.

On the other hand, Lee and Herendeen [6] have evaluated the results of preoperative and postoperative irradiation as compared with surgery alone. They found, excluding relatively benign cases, in all of which the patients were alive and well, that, of the patients receiving preoperative and postoperative irradiation, 46 per

* From the Breast Clinic, Memorial Hospital, New York.
* Read before the meeting on radiology in the Section on Miscellaneous Topics at the Seventy-Sixth Annual Session of the American Medical Association, Atlantic City, N. J., May, 1925.

1. Lee, B. J.: Treatment of Recurrent Inoperable Carcinoma of the Breast by Radium and Roentgen Ray, J. A. M. A. **79**: 1574-1576 (Nov. 4) 1922.

2. Pfahler, G. E.: Treatment of Recurrences and Metastases from Carcinoma of the Breast by Means of Radium and Roentgen Rays, Am. J. Roentgenol. **7**: 328-332 (July) 1920.

3. Hintze, A.: Mammacarcinomrezidive nach Röntgenbestrahlung 5 Jahre und mehr klinische geheilt, Klin. Wchnschr. **1**: 2187-2188 (Oct. 28) 1922.

4. Hoffmann, V.: Die Therapie des Mammacarcinoms und ihre Gefolge, Beitr. z. klin. Chir. **121**: 400-412, 1921.

5. Kastner, H.: Zur prophylaktischen Röntgenbestrahlung radikaloperierter Brustdrusenkrebse, Beitr. z. klin. Chir. **121**: 413-423, 1921.

6. Lee, B. J., and Herendeen, R. E.: An Evaluation of Preoperative and Postoperative Radiation in the Treatment of Mammary Carcinoma, Ann. Surg. **82**: 404 (Sept.) 1925.

cent. were alive and well three years after radical mastectomy. Of the patients who had received only postoperative irradiation, 33 per cent. were alive and well, while of those treated by surgery alone, 21 per cent. remained free from disease.

Additional reports by Quick,[7] Boggs,[8] Pfahler,[9] Béclère[10] and one of us[11] in the field of radium and roentgen-ray therapy of breast cancer furnish dependable evidence of its value.

Pfahler, in 1920, commenting on the nonoperative treatment of cancer of the breast and especially on the recurrences and metastases, called attention to the fact that a certain proportion of recurrences might be prevented if postoperative irradiation was more generally employed. He also felt that little dependence could be placed in statistical studies of end-results of radiotherapy in this field. We believe that a review of the results obtained in a series of recurrent cases treated by irradiation may furnish much valuable information on which reasonable judgment may be passed.

While this study includes a total of 363 cases of recurrent inoperable and metastatic carcinoma of the breast, 158 were so far advanced at the time of the first visit of the patients to the clinic that they were obviously hopeless from the outset. These very advanced cases were treated only with the idea of offering palliation. With the exclusion of this group, there remain 205 cases in which treatment by irradiation as a therapeutic agent could offer a reasonable hope for some regression and control of the disease.

DEFINITION

We have classified all recurrent mammary cases as inoperable when one or more of the following conditions were present:

1. Recurrent, diffuse, subcutaneous nodules in the operative field.
2. Single fixed recurrences to the chest wall.
3. The presence of axillary nodes in the same side, with extension well up beneath the clavicle.
4. Well marked fulness of the supraclavicular fossa of the involved side. Palpable nodes may not be present at this time, but they invariably develop later.
5. Involved nodes present in the opposite axilla.
6. Evidence of involvement of the opposite breast.
7. Intrathoracic metastases.
8. Any recurrence that follows operation on an inflammatory carcinoma of the breast.
9. Metastases to bone.
10. Metastases to distant organs.

We believe that when diffuse nodular recurrences are present in the skin, other metastases may be present, although it may not be possible to demonstrate them. Likewise, fixation of these lesions, or a single fixed mass to the chest wall, places the patient in the inoperable group.

Complete dissection of the supraclavicular area to remove metastatic nodes from cancer of the breast cannot be done without division of the clavicle, which seems a surgical measure not to be recommended because there are probably extensions of the disease beyond the supraclavicular area. The presence of axillary nodes with extension well up behind the clavicle is likewise the precursor of supraclavicular involvement. When nodes in the opposite axilla are involved, it is probable that a widespread dissemination of the disease has already occurred, even though the opposite breast is not invaded. If the opposite breast is involved, we feel that the patient belongs in the inoperable group.

We have called attention to a form of breast cancer, inflammatory carcinoma, which is fulminating in its course. These cases do badly if operation is done, and they recur immediately. The clinical course of this type of mammary cancer is so hopeless from the outset, the surgical results so disappointing, and the recurrences so rapid and diffuse that we feel that these cases surely should be classified as inoperable.

No one can doubt that intrathoracic and intra-abdominal metastases, and the involvement of bones, as well as a spread of the disease to remote areas, indicate inoperability.

AGE

The average age of the patients in this report at the beginning of symptoms was 46 years. The youngest was 23 and the oldest was 70 years. Excluding eleven cases in which the age was not mentioned, they occur as in Table 2.

TABLE 2.—*Age Occurrence of Breast Cancer*

	Number
Up to 30 years	18
31 to 40 years	90
41 to 50 years	137
51 to 60 years	78
61 to 70 years	27
Above 71 years	2

The average age at the time of the first visit to the hospital was 52 years, the youngest patient being 24 and the oldest 80. It will be seen that the age incidence of the groups includes only two beyond the age of 70.

The ages of the thirty-four patients alive have been grouped into decades in Table 3. Eleven of these cases, or 33 per cent., fall into the third and fourth decades, in which the prognosis is always poorest.

TABLE 3.—*Ages of the Thirty-Four Patients Still Living*

	Number
Up to 30 years	1
31 to 40 years	10
41 to 50 years	14
51 to 60 years	4
61 to 70 years	5
Above 71 years	0

LACTATION

There were forty-nine cases that had to be excluded because of a doubtful lactation history. In addition, mammary cancer occurred in the male breast in four patients in this series. Of the remaining 310 cases, 184, or 58 per cent., gave a history of previous lactation, whereas lactation had not occurred in 126 cases, or 41 per cent.

TRAUMA

A history of trauma, as a possible etiologic factor, could be elicited in only seventy-six cases. There was no history of injury in 233 cases, while in fifty-four conclusive data could not be obtained.

SIDE INVOLVED

The left breast was the seat of disease in 197 instances; the right breast, in 163 patients. Three patients gave a history of having both breasts affected.

7. Quick, D.: Preoperative and Postoperative X-Ray in Carcinoma of the Breast, Am. J. Roentgenol. **7**: 597-601 (Dec.) 1920.
8. Boggs, R. H.: Postroentgen Treatment of Carcinoma of the Breast, Am. J. Roentgenol. **5**: 301-304 (June) 1918.
9. Pfahler, G. E.: Radium Combined with X-Ray Treatment in Carcinoma of the Breast, Am. J. Roentgenol. **8**: 661-668 (Nov.) 1921.
10. Béclère, M.: La roentgenthérapie préventive postoperatoire du cancer du sein, J. de radiol. et d'électrol. **8**: 385-400 (Sept.) 1924.
11. Lee, B. J.: Results and Technique in the Treatment of Carcinoma of the Breast by Radiation, Am. J. Roentgenol. **10**: 62-67 (Jan.) 1923.

TYPES OF OPERATION

There were 302 cases in which the type of operation that had been done could be analyzed, the data on sixty-one being insufficient. Table 4 illustrates the type of operation performed.

The percentage of patients on whom radical surgery was done was 79. We have been impressed with the large numbers of patients coming to the clinic with recurrent and metastatic evidences of disease immediately or shortly after operation, and we have felt that, in many of these cases, careful scrutiny of the patient prior to operation had been omitted, or that an ill advised attempt at surgery had been made. Table 5 shows a marked tendency to an increase in the number of radical mastectomies performed in successive years of the cases under report.

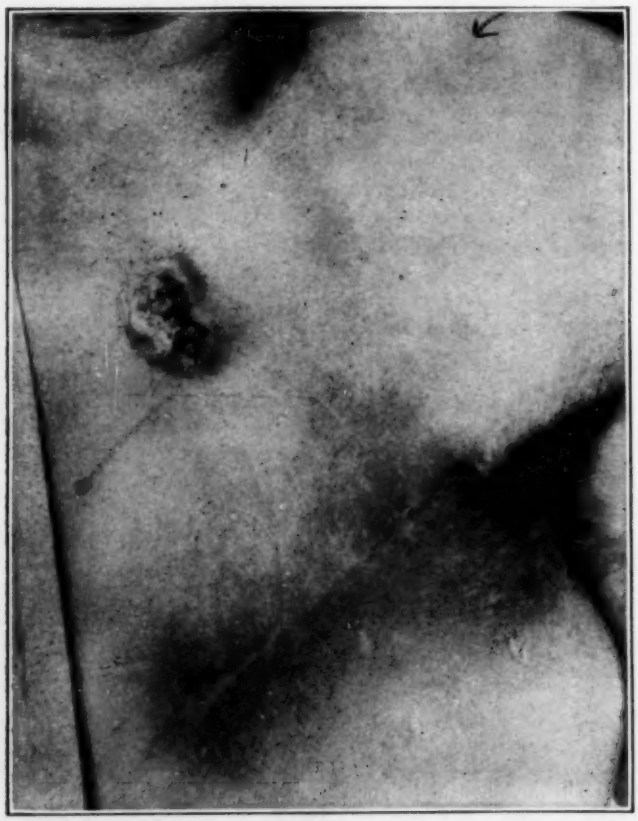

Fig. 1 (A. H.).—Sternal recurrence fourteen years following radical amputation: Arrow points to scar of supraclavicular section which was done at the time of the original operation; this recurrence represents the most frequent chest wall lesion.

TABLE 4.—*Types of Operations Done in Three Hundred and Two Cases of Breast Cancer*

	Number
Radical mastectomy	239
Local mastectomy	38
Excision of tumor	15
Excision of tumor followed by radical mastectomy	8
Radical mastectomy and supraclavicular dissection	1
Axillary dissection	1

TYPES OF RECURRENCE AND METASTASIS

Seventy-five cases of primary inoperable carcinoma of the breast treated by surgery alone, reported [12] in 1924, showed only eleven that had escaped recurrence after five years or more. Fifty-four of the patients had died from recurrence, and ten, who could not be completely traced, also had definite recurrent phases of the disease. This appears to be a high percentage of recurrences in a group of cases that were selected because of a favorable setting. From our experience in the breast clinic with many recurrent cases, it seems fair to assume that in many of these patients supraclavicular nodes were already involved at the time of operation. In no other way can one explain the large number of cases, 173, that show involvement in the supraclavicular fossa. The axillary nodes on the same side as the breast lesion were palpable in 129 instances, though radical mastectomy had been performed in 238 cases, a recurrent percentage of 54. The inference seems inevitable that the surgery was less thorough than it might have been, and this inference is further strengthened when it is recalled that the chest wall was the next largest recurrent group, 124 cases, or 52 per cent. In not a few instances, metastases to the chest or to more distant parts were already present when the patients were first seen in the clinic.

Dr. James Ewing, in commenting on the metastases and recurrences of mammary cancer, has often

TABLE 5.—*Increase in Number of Radical Mastectomies*

	Prior to 1918	1918	1919	1920	1921	To May 1, 1922
Total cases	14	50	75	92	92	40
Number of radical mastectomies	8	22	42	57	79	31
Percentage of radical mastectomies	57	44	56	62	86	78

TABLE 6.—*Sites of Recurrent Carcinoma*

	Number	Per Cent.
Supraclavicular nodes, same side	172	26
Axillary nodes, same side	129	20
Chest wall	124	19
Intrathoracic—lungs, pleura, mediastinum	65	10
Axillary nodes, opposite side	60	9
Infraclavicular, same side	25	4
Opposite breast	19	3
Supraclavicular nodes, opposite side	19	3
Bones other than spine	19	3
Spine	11	2
Intra-abdominal	5	
Cervical nodes, same side	5	
Distant metastases	4	2
Cervical nodes, opposite side	1	

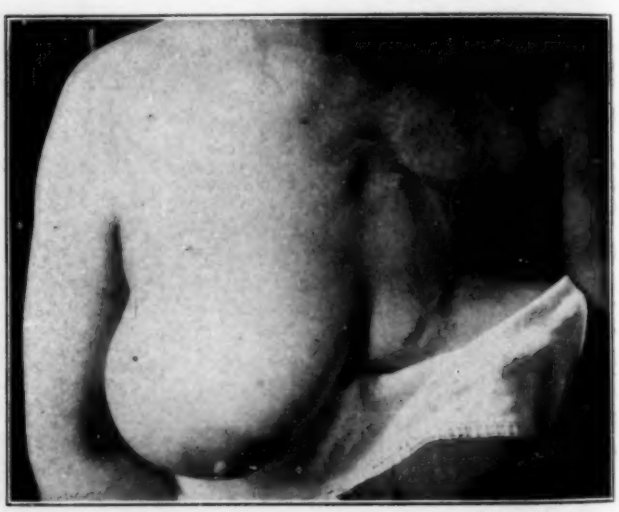

Fig. 2 (A. H.).—Four years after treatment the lesion is not apparent; patient was treated entirely by roentgen ray.

12. Lee, B. J., and Cornell, N. W.: A Report of 87 Primary Operable Cases of Carcinoma of the Breast Admitted to the New York Hospital Prior to April 1, 1919, Ann. Surg. **80**: 400-418 (Sept.) 1924.

remarked that "the sparks fly early and wide." Table 6 shows that the site of recurrence bears out this statement.

PATHOLOGY

The pathology of this group was a difficult one to assemble. All of the operations had been done elsewhere. This necessitated considerable correspondence

Fig. 3 (S. R.).—Sternal recurrence at lower end of incision for radical mastectomy.

with the surgeons and hospitals. As a routine, in the admitting office at the hospital, a pathologic report or a slide, preferably the latter, is requested at the time of the patient's admission. These requests are repeated through the breast service and not infrequently have received no response. In some instances, the diagnosis of carcinoma was reported but the type was not stated. The pathologic histology of 166 cases is given in Table 7.

TABLE 7.—*Pathologic Histology of One Hundred and Sixty-Six Cases of Breast Cancer*

	Number
Fibrocarcinoma	43
Cellular carcinoma	29
Carcinoma simplex	23
Adenocarcinoma	17
Adenocarcinoma, colloid degeneration	4
	21
Sweat gland carcinoma	6
Papillary carcinoma	2
Squamous carcinoma (originating from cracked nipple)	1
Fibro-adenoma with early malignant changes	1
Carcinoma, type not stated	40

The group is singularly free from the relatively benign malignant lesions. In only two instances was the lesion a papillary carcinoma. In those patients in whom no pathologic report or slide could be obtained, sections have not infrequently been made at the clinic to establish the pathologic type. When no pathologic condition has been established, the clinical course of the disease has determined, beyond any question, that we were dealing with recurrence and metastases from mammary carcinoma.

TREATMENT

The cases of recurrent inoperable carcinoma, of necessity, belong entirely to the field of radiology, for radiation therapy offers the only hope of arresting or eliminating the disease or relieving many of its distressing symptoms.

Careful selection of patients, with especial attention to the type and extent of the recurrence with suitably planned therapy, will yield the most satisfactory results. No routine procedure can be followed in the treatment of this group of cases; each patient is a special problem to be handled in a special way.

The physical well being of the patient must not be neglected. Efforts to improve nutrition and relieve mental and physical suffering should not be omitted.

In this series of patients irradiation with the roentgen ray has been the agent most frequently employed. It is not a discrimination for this type of therapy in preference to radium or a combination of the physical agents but because the lesions present were best handled by roentgen-ray therapy.

The next greatest number was treated by a combination of radium and the roentgen ray, both forms being used over identical areas of skin quite frequently. We have seen no ill effects from such intensive irradiation and do not subscribe to Pfahler's admonition that the two agents should not be used over the same area of skin. During the last year, in the service of Dr. Quick at the Memorial Hospital, both roentgen ray and radium have been used frequently in this manner in treating cervical node metastases from intra-oral cancer. The time interval between applications was negligible, though the usual full dose of each agent was used. No evidence of cutaneous overirradiation has followed the use of this method.

Radium alone as an agent for treating inoperable recurrences has had the least use, but some of our most striking results have been obtained in this way. Fewer cases have lent themselves to exclusive radium therapy because most of the cases presented too widely disseminated lesions.

Fig. 4 (S. R.).—The lesion has practically disappeared following the treatment with radium consisting of two radium trays.

A considerable number of patients, 158 in all, were so far advanced in the course of the disease that little or no result could be expected from treatment. Such patients should be separated from those in whom considerable palliation or regression might be anticipated. Even the more advanced ones may be treated, but much less aggressively, giving some palliative relief. Though none of this class are alive, a number were made much

more comfortable. We feel that these cases should be treated in an effort to relieve suffering, and occasionally marked palliative results are obtained. One should bear in mind that the treatment for these advanced cases should not be vigorous, for intensive irradiation may do more harm than good.

Excluding the very advanced patients, there were 205 cases in the recurrent inoperable class in which a reasonable hope could be entertained for some regression and considerable control of the disease by appropriate radiotherapeutic measures.

Roentgen-Ray Treatment.—In the majority of cases irradiation by low voltage has been employed under the direction of Dr. Herendeen, the roentgenologist of the hospital. The low voltage treatment used in this series consisted of cycles of from one to five exposures, depending on the number of areas to be treated. The time of treatment varied from seven to twenty-five minutes. The set-up used was with a peak voltage of from 135,000 to 140,000 volts, 4 milliamperes of current, a focal skin distance of from 10 to 12 inches, and 4 mm. of aluminum filtration. The dosage in each instance was planned to meet the need of the individual case. Treatments were repeated over identical areas if regression had been insufficient or if the disease had remained stationary, but not because the condition of the skin would permit further irradiation. This form of roentgen-ray therapy was employed for supraclavicular or axillary involvement, for diffuse cutaneous recurrences of so-called inflammatory carcinoma and intrathoracic or osseous metastases. Striking disappearances of cutaneous nodules have occurred following the use of the roentgen ray. Some of these cases have shown a reappearance of the disease in the irradiated field, and these lesions are particularly resistant to treatment, the cells becoming "ray fast," as Hintze terms it.

High Voltage.—In the earlier cases in this series, no treatment by high voltage was given. This type of roentgen-ray machine was not installed at the Memorial Hospital until about three years ago. Since 1922, certain well chosen cases of intrathoracic metastases, as well as some bony metastases in the spine and pelvis, have yielded reasonably satisfactory and suggestive results. We feel that when a complete cycle over the chest wall has been employed by low voltage, a considerable depth dose has been delivered to the chest which has definitely influenced the disease in this region. From our present point of view, high voltage therapy has a limited field in the treatment of recurrent and metastatic mammary cancer.

Treatment by Radium.—The radium pack or radium tray is used for large, well circumscribed recurrences, while bare tubes of emanation are employed in the smaller, superficial recurrent nodules or in axillary nodes; but the latter form of recurrence has been difficult to treat satisfactorily.

The treatment of inoperable recurrences of the breast by radium has been carried out in one of the four following ways or by a combination of any two or all of them:

1. Treatment by the radium pack has been given at a distance of 6 cm. from the skin over an area of approximately 70 sq. cm., a maximum dose of 10,000 millicurie hours being employed. The filtration has been 1 mm. of brass and 0.5 mm. of silver. The use of this form of external radium therapy has been confined to the treatment of involved supraclavicular or axillary nodes, the infraclavicular fossa, the larger recurrences on the chest wall or metastases to bone.

2. The tray is a smaller external applicator with the same filtration and is used at a distance of 3 cm. from the skin, the maximum dose being 3,000 millicurie hours. The moderate sized, single, fixed recurrences of the chest wall were treated with the tray, and infrequently the lymph drainage areas. The promptest and most satisfactory regressions have been obtained by the use of the tray in treating these single fixed lesions.

3. Bare tubes of radium emanation were employed in treating small recurrent lesions, approximately 1 millicurie being given per cubic centimeter of tissue treated. Great care must be exercised in placing the tubes. If they are less than 1 cm. from the skin surface, ulceration may occur, while necrosis of bone or cartilage may result from a too close proximity to these structures. Localized subcutaneous nodules of the chest wall may be cared for in this manner, but they may be treated just as effectively, in many instances with roentgen-ray irradiation. The satisfactory implantation of bare tubes in axillary nodes cannot be done with accuracy unless surgical exposure is employed. In the majority of cases one does not feel justified in doing this unless the disease is confined solely to the axilla. Supraclavicular nodes treated after this fashion frequently cause an intractable brachial neuritis. The treatment of inoperable recurrences by insertion of bare tubes has a very limited field.

4. Breast needles with 0.4 mm. of platinum filtration have been of service in the treatment of recurrent axillary nodes, or where there has been an extension of the disease to the opposite breast. Approximately 7 millicurie hours per cubic centimeter of tissue treated is the dose with such needles. We have been more and more impressed with the efficacy of this form of irradiation.

Electrocoagulation.—A few well chosen cases with small isolated recurrences not fixed to the chest wall have been successively handled by this method. Table 8 gives a summary of the results to date of treatment employed in the 363 cases under report.

TABLE 8.—*Summary of Results of Treatment*

			Regression			Alive		
	Type	No.	Marked	Moderate	None	No Evidence	Evidence	Dead and Final
Favorable	Roentgen ray	94	40	41	13	10	6	78
	Radium	13	6	5	2	1	1	11
	Combined	98	50	37	11	7	9	82
	Total	205	96	83	26	18	16	171
Advanced	Roentgen ray	104	5	17	82	0	0	104
	Radium	10	1	5	4	0	0	10
	Combined	44	15	15	14	0	0	44
	Total	158	21	37	100	0	0	158
	Grand total	363	117	120	126	18	16	329

DURATION OF THE DISEASE

A study of the cases under report has furnished certain information regarding the duration of symptoms and the behavior of the disease. The average duration from the time of the first symptom to operation was nine months. The case that gave a history of the shortest duration was two weeks, and the longest, six years and eleven months. The average duration from operation to recurrence was almost one year and seven months. Many cases gave a history of immediate recurrence, and for this reason we feel that the radical operation was not the procedure of choice for those particular cases. The greatest interval from operation to a reappearance of the disease was thirty-two years, the type of metastasis in this patient being involvement of the ischium and ilium.

Mrs. N. J., aged 80, had had the left breast removed thirty-five years before, and one year afterward, the right breast. She remained perfectly well until eighteen months prior to admission to the breast clinic. Physical examination revealed

no abnormality other than a few superficial skin recurrences over the right chest wall. Both breasts had been removed by radical mastectomies. There was no involvement of the lymph nodes. The left ilium was quite tender on pressure, and passive movements caused pain. The roentgenogram of the left hip revealed evidence of extensive bone destruction in the ilium and ischium. One small skin nodule was excised which proved to be carcinoma, but the type was not stated. The patient received one cycle of low voltage roentgen-ray treatments over the left hip. While the last note of her follow-up record reports that she is bedridden, this patient was made comfortable for a considerable number of years.

TABLE 9.—*Synopsis of Group*

Year	Total No.	Alive		Total		
		No Evidence	Evidence	Alive	Final	Dead
Prior to 1918.....	14	3	1	4	..	10
1918.....	50	0	1	1	..	49
1919.....	75	2	1	3	2	70
1920.....	92	4	1	5	2	85
1921.....	92	3	8	11	..	81
To May 1, 1922.....	40	6	4	10	..	30
Total.....	363	18	15	34	4	325

Alive of entire group (363), 9 per cent.
Alive of favorable group (205) 17 per cent.

The average duration of life after recurrence was two years and one month, the shortest being one month and the longest ten years and four months.

The average duration of life for the entire group from first symptom to death, or, if living, to May 1, 1922, was four years and five months. One patient lived only five months from the date of the first symptom, while the longest duration of disease of any patient was thirty-eight years and five months.

RESULTS

The treatment of the favorable group of 205 cases gave the following results:

Thirty-four patients are alive, which is 9 per cent. of the total number, or 17 per cent. of the favorable group. The total number alive without evidence of any lesion is eighteen, while sixteen have disease still present. The average duration of life of this group since recurrence is slightly over five years. A detailed analysis of the thirty-four cases is shown in Table 9.

Though the percentage of patients showing satisfactory control of the disease to date in this report is a small one, many other patients showed marked but less striking evidence of the benefit of radiation treatment. Certainly many patients were salvaged for a time who otherwise would have succumbed earlier to the disease. The survey of this group has convinced us that the treatment of recurrent inoperable mammary cancer by irradiation gives a definite prolongation of life and an amelioration of many symptoms.

TABLE 10.—*Summary of Thirty-Four Favorable Cases*

Year	Case	Age	Pathologic Condition	Type of Operation					Treatment			Result		Duration		
				Radical	Local	Excision	Excision Followed by Radical	Doubtful	Roentgen Ray	Radium	Combination	No Evidence	Evidence	Before Operation	Operation to Recurrence	After Recurrence
To 1918	1	40	.....	1	..	..	..	..	1	..	..	..	1	17	6	124
1918	6	48	Cellular carcinoma.....	1	..	..	..	..	1	..	..	1	..	1	7	94
1918	10	47	Adenocarcinoma.....	1	..	..	..	..	1	..	..	1	..	32	3	112
1918	13	56	.....	..	1	..	..	..	1	..	..	1	..	5	3	92
Total (4).....				3	1	..	..	..	4	..	..	3	1			
1918	39	68	.....	1	..	..	..	..	..	1	..	..	1	1	24	90
Total (1).....				1		..	..	..	..	1	..	..	1			
1919	61	50	.....	1	..	..	..	..	1	..	..	1	..	22	1	68
1919	69	29	.....	..	..	..	..	1	1	..	..	1	..	½	2	74
1919	85	48	.....	1	..	..	..	..	..	..	1	..	1	6	3	78
Total (3).....				2	..	..	..	1	2	..	1	2	1			
1920	91	37	Adenocarcinoma.....	1	..	..	..	..	..	..	1	1	..	72	½	54
1920	99	67	Type not stated.....	1	..	..	..	..	..	..	1	1	..	1	2	55
1920	106	50	Adenocarcinoma.....	1	..	..	..	..	1	..	..	1	..	4	13	61
1920	120	38	Carcinoma simplex.....	..	..	..	..	1	..	..	1	..	1	5	4	72
1920	219	34	Fibrocarcinoma.....	..	..	1	..	..	..	..	1	1	..	2	360	60
Total (5).....				3	..	1	..	1	1	..	4	4	1			
1921	232	45	Adenocarcinoma.....	1	..	..	..	..	..	..	1	1	..	24	14	114
1921	233	41	Carcinoma simplex.....	1	..	..	..	..	..	..	1	..	1	5	16	28
1921	234	45	.....	1	..	..	..	..	..	..	1	..	1	1	1	44
1921	235	45	Carcinoma, type not stated....	1	..	..	..	..	1	..	..	..	1	12	384	65
1921	236	65	.....	1	..	..	..	..	1	..	..	..	1	4	34	48
1921	237	58	.....	1	..	..	..	..	..	..	1	..	1	8	5	52
1921	238	40	Carcinoma, type not stated....	1	..	..	..	..	..	..	1	..	1	1	12	54
1921	239	41	.....	1	..	..	..	..	..	1	..	..	1	1	23	42
1921	240	31	.....	1	..	..	..	..	..	..	1	1	..	10	3	45
1921	241	63	Carcinoma simplex.....	1	..	..	..	..	..	..	1	1	..	2	5	49
1921	242	35	Type not stated.....	1	..	..	..	..	..	..	1	..	1	3	4	42
Total (11).....				11	..	..	..	..	2	1	8	3	8			
1922	323	42	Cellular carcinoma.....	1	..	..	..	..	1	..	..	..	1	40	15	42
1922	324	61	Cellular carcinoma.....	1	..	..	..	..	..	..	1	1	..	36	12	52
1922	325	47	.....	..	..	..	1	..	1	..	..	1	..	3	2	40
1922	326	59	Adenocarcinoma.....	1	..	..	..	..	1	..	..	1	..	1	7	37
1922	327	44	Type not stated.....	..	1	..	..	..	1	..	..	1	..	3	1	40
1922	328	39	Type not stated.....	1	..	..	..	..	1	..	..	..	1	10	2	40
1922	329	33	Fibro-adenocarcinoma.....	1	..	..	..	..	1	..	..	1	..	3	18	29
1922	330	45	Scirrhus carcinoma.....	1	..	..	..	..	1	..	..	..	1	1	3	49
1922	331	51	.....	1	..	..	..	..	..	..	1	1	..	8	1	53
1922	332	35	.....	1	..	..	..	..	..	..	1	..	1	2	3	36
Total (10).....				8	1	..	1	..	7	..	3	6	4	345	993	203
Grand total and average 34 cases.....				27	3	1	1	2	16	2	16	18	16	10	29	60

CONCLUSIONS

1. A careful selection of patients for operation should be made as a prophylaxis against the recurrence of breast carcinoma.

2. Preoperative and postoperative cycles of roentgen ray are important prophylactic measures against recurrence.

3. Carefully planned and properly applied irradiation to recurrent breast carcinoma definitely prolongs the life of the patient and may control the disease for a considerable period of years.

128 East Seventy-Third Street.

ABSTRACT OF DISCUSSION

DR. HENRY K. PANCOAST, Philadelphia: I wish that we could have the statistics from a large number of surgeons and roentgenologists in order that we might tell definitely the advantages of postoperative treatment, and possibly of anteoperative treatment also. The only difficulty will be that in case of surgical procedures, the diagnosis will have been confirmed by biopsy, and when radiotherapy alone is used, we shall have no biopsy in most instances. We can recognize at least three groups of cases requiring postoperative treatment; the apparently favorable cases; the recurrent cases, as are most of Dr. Lee's, and those in which the treatment is obviously palliative only. The question is often asked as to when postoperative treatment should be started. I am rather inclined to wait two, three or even four weeks, until the patient has fully recovered from the operation and is better able to stand the strain imposed by irradiation. If it is thought imperative to treat the patient immediately because of the fear of a very rapid recurrence, it will be a waste of time to try to irradiate such a patient anyway. It seems to be customary now to treat practically all cases of recurrent carcinoma of the breast. If a surgeon is willing to have a patient treated for recurrence, why not have the patient treated soon after operation and try to prevent that recurrence or at least keep that recurrence off as long as possible? It is, of course, essential to examine every patient for metastases. We examine them superficially for enlarged glands or for nodes in the skin. The chest should be included, and if the patient complains of any obscure pains elsewhere in the body, certainly the bones in those localities should be examined. I myself feel more hopeful of results in bone mestastases than in chest metastases. Of course, chest metastases are taken care of in the general routine of irradiation of the breast area. Bone metastases, if they are not too extensive and scattered, should always be treated because so much can be accomplished. We may not necessarily cure these patients of their bone metastases, but certainly we can help them, and in a large percentage of cases the pain will be relieved, at least temporarily, and sometimes permanently. Resistant multiple skin nodules sometimes respond differently with different types of filters. Resistant single nodules may be removed surgically or by electrodesiccation. Certainly the indication arises at times for such removal.

DR. GEORGE E. PFAHLER, Philadelphia: There can be no questions as to the superior value of irradiation in the treatment of recurrences or metastases following carcinoma of the breast. When we are dealing with metastatic carcinoma of the bone, we are always dealing with a part of a general carcinomatosis; and while we can get brilliant results in the particular area treated, the disease that has already been planted elsewhere in the body is likely to progress, and we shall get our most brilliant results, therefore, in those cases in which there are one or two or a few isolated foci of this disease. If we can secure such brilliant results with recurrent carcinoma, is it not rational that we should be able to prevent the growth of that carcinoma if the disease was treated at an earlier stage? I urge that the patient be sent for irradiation just as soon after the operation as her condition and circumstances will permit, generally from about ten days to two weeks after the operation. I am opposed to the massive dose treatment. If the patient is not quite up to normal after the operation, if we do not give doses in massive quantity, we can repeat them more frequently, perhaps every day, or every other day, and give a smaller quantity, and the patient will not suffer as a result. As to choice of treatment, we must choose either high voltage rays, low voltage rays, or radium, depending on the location and character of the recurrence or metastasis. If the metastasis or recurrence is deeply located, I think unquestionably we shall obtain the best results by means of the high voltage rays. If it is superficial and on the chest wall, we shall probably obtain best results by low voltage rays. If it is localized, heavy doses of low voltage rays or local application of radium would probably accomplish the very best results.

DR. HENRY SCHMITZ, Chicago: I have seen quite a number of recurrent cases. In one case of recurrent carcinoma of the right breast, with extension into the left breast, both supraclavicular regions and the pelvis, and with bony metastases, particularly in the lumbar spine and metastasis or continuation in the lung substance, we carried out the following treatment: After careful examination of the blood and several days' observation of the general condition, we gave a blood transfusion to increase resistance and reactivate the defensive powers. Then we applied a one-third roentgen-ray dose to eight fields anteriorly and eight fields posteriorly, covering the neck and entire trunk, using short wave roentgen rays. The entire course was given within one week. The second course was applied two weeks later and the third course after an interval of another two weeks. We also performed a McDill lymphangioplasty, which worked successfully, and within four weeks the peritoneal cavity appeared to be free from fluid. Slight hemorrhages occurred from the uterus. These were controlled with an intra-uterine application of 3,600 mg. el. hrs. of radium. The patient regained strength slowly, and within three months she was up and about and after another month she left the hospital. She has been doing light housework since. At a recent examination we found movability of all cancerous nodules and growths. The latter have remained stationary and entirely inactive. We have had several such cases and seen equally gratifying results. These observations are of interest, as they may throw light on the hypothetic "X" of Barclay present in systemic cancer disease.

DR. BURTON J. LEE, New York: I agree with Dr. Pancoast that postoperative irradiation had best be withheld for three or four weeks after operation, until the wounds are well healed and the patient has recovered from the operative procedure and is in very much better shape to stand irradiation than earlier. I feel that the study of the whole group is not discouraging. My final reaction to the whole study is really this: If carcinoma of the breast in a recurrent phase can yield such interesting results, is it not possible that postoperative irradiation should be more generally employed? I believe it should be. I also believe that preoperative irradiation should be resorted to oftener.

Epidemic Disease in West Africa.—Transport facilities have changed so profoundly since the war that we can no longer look on the desert sands of the Sahara as a barrier against disease from the north. The tide has turned at last, and the little waves of disease which rippled up a short distance from the coast are now likely to be overwhelmed by a tidal wave from the north. When the current set north and north only, tuberculosis, which is already a curse of coast towns, spread slowly and insidiously up-country. But even now it has not affected the northern provinces to anything like the extent it has riddled the southern coast districts. Cancer and grave gastric troubles, doubtless the inevitable concomitants of modern civilization, have not, so far, been traced beyond the ambit of European influence on clothes and diet, implanted on the coast towns centuries ago. Similarly, the pains of normal labor in the coast negress, so far from being slight and rapidly effective as is the case with her untutored sister in the Hinterland, are apparently becoming, year by year, European in character. Sharp, N. A. D.: *Tr. Roy. Soc. Trop. Med. & Hyg.* **19**:260 (Oct.) 1925.

TRAUMA AND MALIGNANCY

HARRY E. MOCK, M.D.
AND
JOHN D. ELLIS, M.D.
CHICAGO

A general impression has probably existed in the minds of the profession ever since medical arts have been practiced that neoplasms could result from trauma. Virchow subscribed to this and rather clarified conceptions concerning tumor development by proposing as a doctrine of pathology that any change which is associated with tissue proliferation may terminate in the development of a true tumor. In some instances involving undetermined factors and conditions, this change occurs more readily than in others. The more active tissues are proliferating, and the longer proliferation continues to occur the more readily neoplasms develop. The transformation from hyperplasia to neoplasm, more especially malignant neoplasm, is of course a relatively rare occurrence, while simple hyperplasia from many causes is exceedingly common.

We know that whereas traumas of various sorts are of almost daily occurrence in every human life, malignancy is rare, and that trauma can never be the only and ultimate cause of malignancy. Science has begun to give us a glimpse of the undetermined factors that activate the transformation of normal tissue cells to malignant cells, as in the Rous sarcoma of mice. Tar cancers are being produced in experimental animals with fairly convincing accuracy and precision. That there is a relation between trauma and inflammation and between inflammation and tumor formation seems apparent. Then there are the cases of malignancy following trauma to areas already pathologic, as instanced by nevi and warts. We are certain that there are predisposing factors always present before trauma can excite malignancy, and this is as far as science takes us. From here on, we must rely on clinical data and reasonable inferences to be drawn from it.

To the passing generation of surgeons, the question as to the rôle of trauma in malignancy was little more than an interesting speculation. To the surgeon of today, it has become a matter of practical everyday importance to be able to make some reasonable conclusion in regard to the value of the factor of trauma in the causation of neoplasms and other disease entities concerning which the etiology is doubtful or still under dispute. The development of social legislation has been responsible for this. Organized medicine has participated very little in the gradual evolution of the social conscience, which during the last fifty or sixty years has been responsible for the development of a type of legislation intended to compensate the industrial worker for loss of time and function of members resulting from injuries sustained while at work. This sort of legislation has gone hand in hand with the so-called industrial revolution, or growth of large industry and wholesale machine production, which has so rapidly supplanted the small home industry of the last century.

The surgeon of the future will have an increasing responsibility in cases in which the rôle of trauma in the etiology of disability is under dispute.

It is interesting to note that while the tendency of compensation boards is to find trauma responsible in cases of malignancy, when the patient's history of the actual trauma is unconvincing, often dating back several years, when the injury is recorded in the vaguest of terms, or when there is a notable possibility of malignancy existing prior to the alleged injury, the gradual trend of opinion of scientifically trained observers is to restrict more and more the percentage of incidence of true traumatic malignancies and to become more and more conservative in the attitude toward this question.

In following this gradual change in point of view, we shall limit our attention to sarcoma following a single trauma. Thorough discussions of this particular phase of the question began with an elaborate paper by Loewenthal [1] from Bolinger's laboratory in Munich in 1875, which includes the presentation of short case histories of 800 cases, with about 100 cases of tumor formation following trauma. In so many of them, any critical examination contradicts his conclusion that the trauma described had any causal relation to the neoplasm that his percentage conclusions are of little value. He reports, however, a considerable number that are very interesting and suggestive, as, for instance, several cases in which sarcoma developed at the site of old fractures and in old gunshot wounds.

Samuel Gross,[2] in 1897, after a considerable investigation, made the statement that, among 144 cases of sarcoma of the long bones that he had been studying, one half of those in which the etiology was recorded was due to trauma.

Coley [2] followed, in 1898, with an article on the influence of injury on the development of sarcoma. He studied seventy cases of sarcoma in which there was a history of trauma in forty-six, but more careful analysis of the records of his cases shows that not more than half of them are even fairly convincing.

The turning point was reached in evaluating the factor of trauma when von Buenger [3] proposed the standardization of the statistics regarding trauma and obtained reports from many large German clinics for five year periods, which included an accurate statement of the number of cases in which the tumor could be attributed with certainty, or with a probability bordering on certainty, to a single severe trauma, the character of the trauma being accurately stated.

The effect of this attempt at establishing a scientifically critical attitude at once became apparent. All the percentages so obtained, as well as all the reports since that time, give a tremendously lower incidence of traumatic tumor than the older ones. Machol [4] found that he could accept the reasonable certainty of a traumatic etiology in 2.06 per cent. of cases. Wolff [5] gave his percentage as 14.35; Liebe,[6] as 10.8 per cent.; Wuerz,[7] as 5 per cent.; Seidener,[8] as 14.19 per cent. It is readily seen that though we should expect the statistics to be considerably affected by the differences in individual judgment, all are tremendously lower than

1. Lowenthal: Ueber die traumatische Entstehung von Geschwuelsten, Arch. f. klin. Chir. **41**, 1898.
2. Cited by Ophüls, William: California State J. Med. **19**: 54 (Feb.) 1921.
3. Von Buenger, cited by Wilhelm Fraef in "Trauma und Tumor," Centralbl. f. d. Grenzgeb. d. Med. u. Chir. **17**: 603, 1913.
4. Machol: Die Entstehung von Greschwuelsten im Anschluss an Verletzungen, Inaug. diss., Strassbourg, 1900.
5. Wolff: Zur Entstehung von Geschwuelsten nach traumatischen Einwirkungen, Inaug. diss., Berlin, 1874.
6. Liebe: Beitraege zur Lehre von der traumatischen Entstehung der Sarkome und Enchondrome, Inaug. diss., Strasbourg, 1881.
7. Wuerz, K.: Ueber die Entstehung von Geschwuelste, Beitr. z. klin. Chir. **26**: 567, 1900.
8. Seidener, M.: Ein Beitrag zur Frage von der Geschwuelste, Ann. d. staedtischen allg. Krankenhaeuser **15**: 589, 1909.

the 44.7 per cent. of Lowenthal. Jordan,[9] in 1901, proposed four postulates to be fulfilled before clinical observation on the subject could be given any credence.

Lowenstein,[10] working in Czerny's clinic, has improved on these earlier postulates by proposing for the use of the German compensation boards the following proof of traumatic etiology:

1. Credible proof that trauma was sustained must be brought by the claimant or shown on investigation by the judges.
2. The accident must have been of a nature that makes probable the injury of the part later affected by neoplasm, though it need not have acted directly on it.
3. The accident, the intermediate or premonitory symptoms of malignancy, and the malignancy itself must bear a clear relationship to one another.
4. The tumor which is attributed to trauma must have developed subsequent to the injury, and at a time which makes probable a causal relationship, due consideration being given to the pathology and clinical type.

The whole subject was discussed at the second international conference on cancer at Paris in 1910 by Berard and Thiem.[11] Thiem defines the trauma as one severe enough to cause immediately appreciable effects, from both an anatomic and a functional standpoint, giving rise to credible symptoms which may later subside. He emphasizes the importance of the premonitory or intermediate symptoms, which he calls the "bridging symptoms." The possibility of a causal relationship between an injury and a tumor development after the passage of two or three years is very slight, unless such symptoms have existed. He makes an exception of glioma of the brain, which is known to be of exceedingly slow growth. He accepts two years as a reasonable time limit for sarcoma, and three years for carcinoma. As a minimum time limit, he will accept eight days in sarcoma and not less than three or four weeks in carcinoma.

It is not our purpose in this paper to add any new scientific data on the cause of malignancy or on the exact rôle of trauma, if any, in malignancy. Nor do we care to pile up further evidence to prove that oft repeated or continuous trauma to certain parts of the body may beget cancer, for the mass of clinical and experimental data to date would seem definitely to prove this fact.

We believe, however, that with each succeeding year of the enforcement of the social legislation known as employees' accident compensation, the question of malignancy following trauma is being raised more and more frequently; that the surgeons and pathologists are the only members of society equipped to be fair and just arbitrators when this question is raised; that every trauma occurring in a working man or woman may eventually raise this or similar questions for arbitration or litigation, and that therefore it behooves the surgeon to study every trauma carefully, by using the laboratory, roentgen rays and complete physical examinations as means of securing complete diagnosis whenever indicated, and finally by reviewing case reports and other clinical data that we can set forth certain postulates that will assist in determining the causal relationship, if any, between a given malignancy and an alleged trauma.

For the last five years we have watched for and collected the histories of every case in which malignancy was alleged to follow trauma. These histories have been secured from our own cases, from those of fellow surgeons and from several large insurance companies. Many in which the attending surgeon thought there could be a relationship were easily ruled out on close analysis, and no claim for compensation has ever been made. Of a total number of 300 cases studied, only fifteen required a more critical analysis before classifying them as compensable or noncompensable post-traumatic malignancies. None could be classed as positive post-traumatic malignancy from a purely scientific standpoint.

It is interesting to note how frequently a surgeon would say: "I have a case of sarcoma following an injury," and yet on securing the hospital record one would find only a bald statement, such as, "Patient claims he injured leg five years ago." Or there would be a good history of the trauma and a good description of the tumor a variable period thereafter, but no record of roentgen-ray or other examination to prove the absence of tumor at the time of injury. Even in some of the histories of sarcoma developing at the site of old fractures, one is led to speculate on the possibility of the fracture being of a pathologic nature, the sarcoma not being diagnosed until the fracture had occurred.

These cases were studied from two standpoints: (1) a purely medical, and (2) a medicolegal.

In order to say positively that a malignant tumor had developed as a direct result of a single trauma, we formulated postulates from the purely medical standpoint as follows:

1. Definite description by the reporting surgeon of the trauma at the time it was sustained.
2. Definite proof by every possible means of examination made at the time the injury was sustained that no tumor already existed at the site of trauma.
3. Definite signs and symptoms of a pathologic process continuing at the site of the trauma until a malignant tumor appeared and was positively diagnosed.

Thus far we have been unable to find a single case that fits these postulates. In a few other cases, however, the suggested relationship was too strong to be cast aside.

For application to cases that have a definitely legal aspect and appear before courts and compensation boards for adjustment, arbitration or litigation, we propose the following postulates, which are the first to be submitted for the consideration of surgeons and compensation boards in the United States:

1. Reasonable proof of a trauma of sufficient seriousness to cause definite tissue changes:

(*a*) The injury to be reported within a reasonable period after the accident.

(*b*) The examination and condition of the traumatized tissues to be reported by a physician within a reasonable period after the injury.

2. The developing neoplasm must be at the same site as the original injury and must involve some of the tissue which, without reasonable doubt, could have been involved in the original trauma.

3. Definite evidence must be produced to prove that no neoplasm existed at the site of injury prior to the accident.

4. In addition to the history of trauma there must be a history of definite bridging signs, such as a persistent swelling, an unhealed wound, or anatomic and func-

9. Jordan: Ueber die Entstehung von Tumoren, Tuberkulose und anderen Organerkrankungen nach Einwirkung stumpfer Gewalt, München. med. Wchnschr. **44**: 1741, 1903.
10. Loewenstein, S.: Zur Frage der "posttraumatischen Krebse," Beitr. z. klin. Chir. **74**: 715, 1911.
11. Thiem: Handbuch der Unfallerkrankungen, Stuttgart, 1909.

tional disturbances which connect the trauma with the malignant growth; subjective symptoms, such as complaint of pain, tenderness or weakness, are impossible to evaluate or visualize and therefore must not be considered competent evidence.

5. The time that has elapsed between a given trauma and the development of the malignant tumor need not be considered if the foregoing conditions have been present; however, it is safe to say that a malignant tumor that develops within two weeks after the trauma existed prior to the injury.

6. A preexistent malignant tumor may be aggravated or accelerated in its growth by a trauma; the trauma may be the first factor to call the patient's attention to the tumor. Treatment should be instituted at once to eradicate the tumor or at least to prolong the patient's life. Under our present laws, which provide for compensation in case of aggravation of an existing condition, by trauma, the employer or his insurance company would be held responsible for this treatment, provided aggravation could be shown, and would be forced to pay for the permanent disability that might follow. He should not be held responsible for the subsequent death of the patient due to malignancy which will occur in the majority of these cases, for the trauma could not aggravate to the point of fatality a preexistent condition which already positively doomed the patient. Nor should he be held responsible for hastening the death, for this point could only be one of speculation on the part of the medical profession.

7. In the case of metastatic or secondary tumor developing at the site of trauma, the first four postulates must be met before the employer is held responsible, and such responsibility should be limited to the treatment of the local condition; it should not be extended to include responsibility for the death that is bound to occur shortly, as the trauma could not have aggravated the primary growth.

In further explanation of these postulates, we offer some of the data gleaned from a study of a great number of alleged cases of malignancy following trauma. In a high percentage, the workman took no note of the injury until after the neoplasm developed. Then he recalled an accident which had seemed so slight that he paid no attention to it at the time. He could give no other bridging symptoms except a feeling of pain at this site since the injury. We were able to secure the compensation board rulings in a number of such cases, and in the majority of instances the case was dismissed because of lack of conclusive evidence. In a few cases in which awards were made, it was evident that the board acted more on sentiment than on judgment.

A few cases had very definite bridging signs from the instance of trauma until the neoplasm was diagnosed, but in only one of these did we have any credible proof that a neoplasm was not preexistent. Bloodgood [12] says: "In my own group of now 1,000 bone tumors, of which perhaps 400 are sarcoma, I have but two cases in which directly after the injury an x-ray was taken showing a negative bone." It seems impossible for us to state positively that a tumor developed following a trauma unless we can rule out its presence prior to that trauma, especially when we consider the thousands of cases which develop when there is no history of trauma.

12. Bloodgood, Joseph: Address before ninth annual convention, International Association of Industrial Accident Boards and Commissions, Baltimore, Oct. 11, 1922.

The following cases were the only ones that seemed to fulfil our postulates, thereby placing them in the class of malignancy related to trauma and therefore compensable:

REPORT OF CASES

CASE 1.—A man, aged 60, referred by Dr. Hohlman of Kewanee, Ill., received an injury, July 28, in which his left arm was forced backward in acute extension. He felt something crack in his shoulder, and at once experienced intense pain; he could not move his arm. He was taken at once to Dr. Hohlman, and a roentgenogram showed a fracture through the acromion process. He was treated for fracture. Two weeks after this injury, a swelling appeared over the posterior aspect of the shoulder and the scapula. This was considered to be a hematoma and was aspirated three times, a dark red bloody fluid being obtained. September 3, the patient entered St. Luke's Hospital. Examination showed a swelling on the posterior aspect of the shoulder and scapula the size of a grapefruit. It had hard indurated margins and fluctuated in the center. The arm could not be abducted more than 30 degrees without pain. The tumor was only slightly tender. The Wassermann reaction was negative. Three roentgenograms showed marked rarefaction involving the body of the scapula and bone destruction, including almost the entire acromion. The roentgen-ray diagnosis was sarcoma. An examination at this time of the roentgenograms of July 28 showed that, in addition to the fractured acromion, there was a honeycombed appearance of the acromion process indicative of existing disease. This was undoubtedly a pathologic fracture. A roentgenogram of the lungs, made September 4, showed no sign of metastasis. After consultation with Drs. Hohlman and Ryerson, it was felt to be the wisest course to attempt local removal of this tumor. September 8, Dr. Mock removed a necrotic mass, in which were embedded particles of bone, and the diseased margin of the scapula. The entire area was thoroughly cauterized. Histologic examination showed papillary-like structures with cells resembling epithelium. These cells were large, about the size of cells in the zona glomerulosa of the suprarenal cortex and of about the same staining quality. Large masses of the tissue were necrotic. This was not a primary tumor of the bone, but rather a metastasis of a primary tumor of epithelial origin. The patient died within the first twenty-four hours following operation. The coroner's necropsy showed a small indurated mass in the stomach, which resembled an old ulcer, but which, the report stated, might be a cancer. Sections were not made. This coroner's report was issued before any of us were at all suspicious of a primary tumor elsewhere.

In this case it would seem that the company was responsible for the pathologic fracture and the treatment of this local condition, including the effort to remove this tumor, as set forth in postulate No. 7, but the company was not responsible for the death of this patient, as he was already doomed.

CASE 2.—A man, aged 67, a patient of Dr. Hopkins, Feb. 11, 1922, while working the reverse lever of an engine, was injured by the lever jerking back suddenly and pushing his right arm backward, causing sharp pain. He could not use the arm. A roentgenogram, taken at once, showed pathologic condition. Possibly, as in Case 1, this condition was overlooked. Two weeks later, the pain had disappeared under hot fomentations, and the patient was discharged. In another two weeks, the upper arm commenced to swell and to pain considerably. The arm just below the shoulder progressively enlarged. May 3, 1922, the patient was referred to Dr. Hopkins, who had a roentgenogram made. Dr. Hopkins also learned that the right arm had been fractured one year previous, at the site of the present swelling. No mention was made of this old fracture in the report on the first roentgenogram. The last roentgenogram, made by Dr. Edward Jenkinson, St. Luke's Hospital, showed an old fracture involving the upper third of the right humerus. About this, there was an abundance of new bone formation extending outward into the soft tissues perpendicular to the shaft. The diagnosis was osteosarcoma. This was held to be either an exaggeration of a sarcoma developing at the site of an old fracture, or a sarcoma

following the injury. This case seems to meet the first four postulates, although it has been impossible to secure the first roentgenograms for study.

CASE 3.—This patient, one of Dr. Joseph Bloodgood's, was a physician, and therefore had more roentgenograms than the average patient. Early in July, he jumped over a wire fence, fell, and sprained his knee. July 10, a roentgenogram was taken and was negative. Pictures were taken every few days, because of the persistent pain, and the roentgenogram of August 20 showed a lesion; September 1, this was shown as a definite tumor on the condyle. The leg was amputated—this was seven years ago—and the histologic specimen showed a giant cell tumor which Dr. Bloodgood believes now was a benign tumor. This case, occurring in a surgeon and observed by good surgeons, seems to fulfil all the postulates. The only question here is that Dr. Bloodgood states that in the first roentgenogram taken there was a lighter area which one might think was a lesion, but a roentgenogram of the other knee showed the same lighter area. In the opinion of this eminent surgeon, the case was definitely a giant-cell tumor following trauma.

CASE 4.—A man, aged 40, a patient of Dr. F. G. Jackson of Muncie, Ind., was injured in the right knee in January, 1919, by being struck on the inner aspect with a piece of pig iron. The skin was broken, and the soft tissues became infected. A roentgenogram was not taken at first, but careful examination at the time revealed no abnormal bone condition. The infection gradually subsided but would not heal. In April, roentgen-ray examination showed some rarefaction in the inner condyle of the femur. In Dr. Jackson's absence, the bone was curetted by another surgeon. The wound still did not heal and Dr. Mock was called in consultation. From a study of the roentgenogram and of the tumor, which was now palpable, a diagnosis of sarcoma was made, and the leg was amputated. The histologic report at that time was large spindle-cell sarcoma. The patient was alive five years after the operation, so that we believe this was also a giant-cell sarcoma. This case fills all the postulates, except absence of definite diagnosis of preexistent bone tumor. The bridging signs following the injury were so definite that, if the condition existed prior to the injury, one must agree that it was probably exaggerated by the trauma or at least was in all probability a compensable case.

CASE 5.—A man, aged 32, a patient of Dr. L. L. McArthur, was injured in February, 1924, by being pinched between a tractor and a disk. The legs, pelvis and scrotal region were injured. The left testis was painful and continued so, and within a month the testis was noted to be enlarging more at the lower pole, and became numb so that it was not tender to touch. Two years ago, the left testis was pinched while the patient was climbing a fence. Previously, there were several other instances of trauma to the testis. On removal, it was found twice the normal size and nodular. The epididymis was enlarged; the vas deferens was not enlarged and was not nodular; the testis was freely movable. The remainder of the examination was negative. The Wassermann reaction was negative. A roentgenogram showed the lungs to be normal. The histologic findings showed fibrous tissue septums surrounding irregular masses of large mononuclear cells; the tissue cells presented the essential characteristics of those of sarcoma of the testis. Irregular portions of the tissue were necrotic. The diagnosis was teratoma.

This case seems to meet all the postulates placing it in the compensable class of tumors. Teratomas are very common in the testis, and it would be difficult to say which of the patient's injuries, if any, had played a part in the development.

CASE 6.—A man, aged 63, a patient of Dr. Plummer, was injured in August, 1923, when he bumped his left shin on the steps when climbing into a cab. The skin discolored and remained sore. In October, 1923, while he was working under an engine, the ballast rock caused the left shin to become more sore, and the patient noticed two small nodular masses in this region. This increased in size and, Nov. 14, 1923, he was operated on at Shawnee, Okla., and a diagnosis of sarcoma was made, of the round-cell and mixed-cell types. The patient entered St. Luke's Hospital in Dr. Plummer's service, April 23, 1924. He had received roentgen-ray treatment prior to this. On entrance to the hospital, the left leg was swollen, painful, tender and indurated; there was a brawny scaling from knee to ankle. The general examination was negative, and the Wassermann reaction was negative. A roentgenogram, taken April 24, 1924, showed a diffuse destructive process involving the shaft of the left tibia; it had a moth eaten, punched out appearance. The diagnosis was chronic osteomyelitis, sarcoma or syphilis. The pathologic report, May 28, 1924, following removal of tissue from the left leg, revealed irregular masses of large epithelial cells arranged like zona glomerulosa of the suprarenal cortex. The cell cytoplasm was finely vacuolated. The diagnosis offered metastatic malignant tumor, or primary tumor hypernephroma. June 3, there was evidence of a pathologic condition of the bone in the upper third of the left femur. There was metastatic malignancy, but there were no other bone pathologic changes elsewhere in the body. The right upper quadrant of the abdomen showed a large shadow from the eleventh dorsal to the third lumbar which might have been due to the kidney; the spleen was enlarged. June 5, the right kidney was palpable. June 27, a roentgenogram following pathologic fracture disclosed a fracture involving the upper third of the femur below the trochanter. The fractured ends showed destruction due to malignancy. The patient died, October 30; there was no necropsy. This case meets the requirements given in the seventh postulate.

CASE 7.—A man, aged 64, a patient of Dr. John S. Coulter, was injured in October, 1919, by falling ten steps and striking on his hip. He was able to get up and continue work the rest of that day and worked until noon of the following day, when he quit because of pain in the right hip. The family physician called the day following the accident. He reported that the buttocks were discolored. The patient was treated at home until November 10, when he went to a hospital. A roentgenogram was taken, which showed no fracture. He returned to the hospital, March 1; under general anesthesia, the right sciatic nerve was stretched and injected because of severe pains in the hip. The roentgenogram findings again were reported negative. The patient was examined for the first time by Dr. Coulter in April, 1920. Dr. Coulter reported no tumor mass, but found shortening and atrophy of the right leg. He stated that the roentgenogram taken in March was extremely poor, making accurate diagnosis impossible, but it was evident that there had been some injury to the acetabulum. Dr. Coulter asked for further roentgen-ray plates to be taken. His next report, August 30, states that the patient had been under the treatment of several different surgeons and that no additional roentgenograms were taken until August 11, when Dr. Carl Davis examined the patient and made a diagnosis of sarcoma. The last roentgenograms showed bone tumor of the right femur and pelvic bones. Dr. Coulter reexamined the roentgenograms of March 1 and stated that the slight roughening observed in the acetabulum at that time was undoubtedly due to tumor. The patient died shortly afterward.

Dr. Coulter could see no evidence of pathologic changes in the roentgenogram of November 10, a month after the injury. The roughening of the margin of the acetabulum was observed in the roentgenogram of March 7. The sarcoma was finally diagnosed by Dr. Davis, August 11. There were very definite bridging symptoms from the time of the injury until the tumor was definitely diagnosed. Dr. Coulter later unearthed roentgenograms taken in May, which showed a fracture of the neck of the femur, which, he states definitely, was not present in March and which he believes was a pathologic fracture. In his final report, he stated that he believed this was a compensable sarcoma. It seems to meet all the postulates set forth above.

CASE 8.—A man, aged 58, a patient of Dr. Cummiskey, examined by Dr. Mock, Nov. 5, 1923, was injured, July 10, 1923, when he was knocked down by a horse, which stepped on the left side of his head, bruised and contused the left side of the body, injured the left eye, knocked out several teeth, and paralyzed the left side. He was taken immediately to

Alexian Brothers Hospital, where he remained for five weeks. He had been under ambulatory treatment until he was referred for examination because of marked swelling and induration over the left lower jaw. Examination showed a definite tumor mass over the left lower jaw exactly at the site where the three teeth had been knocked from the jaw. Two badly infected stumps remained. There were still signs of scars from the former injury, and a spastic condition of the left arm and leg was still present. Roentgenograms were taken for the first time, October 31, and examination of these films showed a destructive process in the ramus of the lower jaw. This destructive process consisted of a complete absence of the jaw bone for a width of approximately 2 inches of the alveolar surface, extending in a cone shape to within half an inch of the angle of the jaw. At this point there was a fracture of the remaining portion of the bone, undoubtedly a pathologic fracture. The soft tissues and mucous lining of the lower maxilla and floor of the mouth were indurated and in some places were sloughing. The glands of the left side of the neck were indurated and enlarged. The diagnosis was carcinoma of the lower jaw. This diagnosis was confirmed later by an examination of sections. The patient died a few weeks later, and as he had no heirs the case was never contested.

We reported this case as carcinoma following injury, because the surgeon who originally saw the case definitely stated that teeth were knocked out and there was considerable trauma to the alveolar processes and the soft tissues in the floor of the mouth, but there was no evidence of tumor formation. This tumor became demonstrable four months later. It developed at exactly the site of trauma, and there were bridging signs from the time of injury until tumor was diagnosed.

CASE 9.—A man, aged 63, a patient of Drs. John S. Coulter and Paul Magnuson, was injured, March 8, 1924, when a weight fell on his right leg. The leg became black and blue, and he was forced to stay in bed. He did not see a physician until March 16. He was first seen by Dr. Coulter, March 27, when a roentgenogram was taken of a swelling extending from the lower third to the middle third of the right leg. This roentgenogram gave a faintly visible outline of the tumor of the soft tissues, and the tumor did not seem to be connected with the bone, although there was a slight irregularity in the periosteum of the tibia. Calcium deposits within this tumor ran parallel with the shaft of the tibia rather than perpendicular. In summarizing his examination, the physician mentioned the possibility of a sarcoma, but as the patient stated he was considerably better than at the time of injury this was thought to be a hematoma that showed signs of ossification. April 24, Dr. Coulter reported that the patient complained of constant pain and weakness in the right ankle. The swelling was tense and fairly soft and did not increase in size at this time. A roentgenogram showed no change in the tumor mass. October 23, a roentgen-ray picture showed the tumor to be larger, and there was definite involvement of the periosteum of the tibia. There were no perpendicular deposits of calcium extending from the periosteum into the soft tissues. The patient was referred to Dr. Magnuson, who removed a section which was frozen. A diagnosis was made of sarcoma, and the leg was amputated above the knee. This was later reported as a periosteal sarcoma.

This case was treated as a compensable case. The history of the injury is rather indefinite, and it is questionable whether this was not a preexistent tumor. Otherwise the case seems to meet all the postulates set forth above.

Five other cases similar to the foregoing were found which were treated as compensable conditions, and which seemed to meet the postulates as definitely as the nine cases reported.

CONCLUSIONS

1. The advent of certain recent social legislation has made it obligatory for the surgeon to decide which particular cases of malignancy can be definitely ascribed to trauma.

2. There is no justification for assigning trauma as the etiologic factor in any particular case, unless this can be proved with scientific accuracy.

3. In the great majority of cases commonly reported as the result of trauma, such an etiology cannot be scientifically established.

4. The method of testing each case by the application of a set of postulates has resulted in a great reduction in the percentage of cases reported as caused by trauma.

122 South Michigan Avenue.

A DEPARTMENT OF PHYSICAL THERAPY

NORMAN E. TITUS, M.D.
NEW YORK

Beekman Street Hospital was reorganized in the spring of 1924. When the new staff decided to devote more attention to the care of industrial patients, it was believed necessary that they should receive physical therapy. I was asked to organize and take charge of the new department. The original space allotted for the department was about 1,100 square feet, and this was sufficient for about nine months, when plans had to be made to enlarge it. At present even the new department of 1,900 square feet is proving to be too small. When space is considered in planning a department of physical therapy, it always would be wise to make the minimum 2,000 square feet, even in a small hospital of 100 beds. It is particularly difficult to expand a department, as the wiring and arrangement of apparatus should be planned originally to last for a long time.

The apparatus mentioned below might well be taken as a standard of minimal equipment, which, with the usual cash and hospital discounts, can be bought for less than $5,000. When the department moved in June, 1925, it was considered necessary by other members of the staff to purchase a second static machine. This is mentioned because the suggestion came from the surgical staff, which had had a year to observe how useful static electricity was, and realized that with a second machine more patients could be handled. This additional machine was bought second-hand, which helped keep the entire cost under $5,000.

The equipment at Beekman Street Hospital consists of:

1. Two sixteen-plate static machines.
2. Three high frequency machines, one of which is portable.
3. One Morse wave generator.
4. One Bristow coil.
5. One galvanic and faradic wall plate.
6. One galvanic and sinusoidal wall plate.
7. Two air cooled mercury vapor arc lamps.
8. One water cooled mercury vapor arc lamp, portable.
9. Four large thermolites.
10. Six small thermolites.
11. One "deep therapy" lamp.
12. Nine massage tables.
13. Two desks, one filing cabinet, and chairs.

In spacing this apparatus around the department, certain factors were necessary to consider. As a static machine makes quite a noise when used to give the static wave current, it is best to place these machines in one room divided off by a partition. The minimal floor space in which a sixteen-plate static machine can be installed is 15 feet square. If it is possible to allot

a space 15 by 18, it is even better. It is also necessary that the rooms in which these machines are set up have as much ventilation and sunlight as possible. It is handy to have water in a static room because electrodes should be wet when put on the patient. Each machine requires two ground wires, and it is found to be most practical to have them overhead. With the two machines working at Beekman Street Hospital, one machine is grounded to the sprinkler system and the other to the steam radiator, while "treatment grounds," as they might be called, are attached to a drain pipe and a hot water pipe. The room is partially divided in half by a 7 foot office partition, and curtained across the door so that patients can undress without seeing one another. The other rooms at Beekman Street Hospital are divided into cubicles by means of wires stretched from wall to wall, 7 feet from the floor, from which ordinary hospital crib sheets are suspended by hook safety pins. Crib sheets are of a standard size, 6 feet in length, and can be washed easily in the hospital laundry and really are much better than curtains specially made.

The massage tables used are of heavy construction, measuring 84 by 30 inches. The tops are covered with padding and a waterproof material, and one end is raised as a headpiece. The top of the tables is 30 inches from the floor. This height is specified, as it makes it much easier for the masseurs to give treatments and it is not too high for patients to mount. Each table has a shelf underneath, 1 foot from the floor, on which towels and electrodes can be placed; and instead of having hooks in the cubicles, clothing can be put on this shelf and kept with the patient. This system seems better than the more expensive way of providing gowns and lockers in a dressing room.

In building the new department at Beekman Street Hospital, the director had some trouble in impressing on the architect the necessity of a soft floor covering. The technicians are on their feet continuously, and a concrete floor will soon incapacitate them and lower the efficiency of the department. Although a little more expensive, it was finally decided to cover the floor at Beekman Street Hospital with a rubber composition. This also has an added advantage in the fact that the liability of any machine becoming grounded and the technician unexpectedly shocking the patient is obviated.

In figuring on the care of the personnel of the department, it is necessary to provide a toilet and a dressing room of sufficient size to permit them to change to their uniforms and have their clothes under lock while they are working.

In installing current in a department, it is a great advantage to have outlets placed in pairs so that both alternating and direct currents are at all places. Direct current outlets should be wired with polarity plugs and the polarity of each outlet should be exactly the same, so that apparatus can be moved from one place to another without the necessity of testing the polarity. The alternating current outlets should be of an entirely different form so that the direct current plugs will not fit into them. The motors that run the static machines are best run with 220 volt direct current, since the rheostat control of these motors on direct current is much more delicate than if alternating current motors are used. Static machines should rotate over a range of from fifty to 250 revolutions per minute and this range can best be obtained by using direct current motors. However, if only alternating current is available in a hospital, static machines can be used, but not as efficiently as with direct current.

In speaking of static machines, it is worth mentioning that the best machines to use are of the Holtz model, with a Wimshurst charger on the end. The advantages of such a model are described in works on the subject, such as those written by Humphris of London and Massey of Philadelphia.

For sensitive galvanic work, especially when the brain or nerves are being treated, it is necessary to have a dependable source of a smooth galvanic current. It has been found best to use the stock radio B batteries for this work. For ordinary galvanic treatments, however, a wall plate or one of the new model generators will give a good, smooth galvanic current.

The list shows two air-cooled ultraviolet lamps. Only one of these is used in the department. The other one, which is a cheaper form of the same lamp, is kept in the wards all the time to give ultraviolet treatments to bed patients.

Good nonmedical assistants, known as "physiotherapy technicians," are particularly difficult to find. At Beekman Street Hospital the technicians were formerly in the government service, and it is felt that such are the best trained that are available for hospital work. Physiotherapy technicians have formed an association, which at present is called the "American Physiotherapy Association," and technicians may be obtained by communicating with the secretary,[1] who has charge of the vocational bureau. It has been estimated in the army that the best results can be obtained by requiring a technician to do not more than twenty-two treatments daily and as patients average about two and a half treatments each, according to the number of patients expected, one can estimate about the amount of nonprofessional help required.

Another important part of a department of physiotherapy is the matter of keeping records. I will not go into a detailed description of the Beekman Street Hospital system of physiotherapy records, but refer those interested to an article[2] which describes in detail the record system used. No fault has been found with this system in the year and a half it has been used.

During the first month the department was opened at Beekman Street Hospital, there were 600 visits of patients, who received 1,479 treatments. Since that time the growth has been practically continuous, and after fifteen months of operation the report shows that during November, 1925, there were 1,359 visits and more than 4,300 treatments given.

Beekman Street Hospital has no equipment for mechanotherapy or hydrotherapy, because it is felt that exercise, active, passive and resistive, done under the careful eye of a technician, is better than attaching the patient to some machine that makes him do only passive exercise. Hydrotherapy has rather a small field in the present work of physiotherapy, so it has not yet been installed at Beekman Street Hospital, where the cases are all of an acute nature. Such treatment is of more use in a hospital where chronic conditions are treated.

Each week, when full ward rounds are made by the entire surgical staff, the director of the department of physiotherapy participates in these rounds and reports on all cases under his care. This also gives the staff a chance to refer cases to the department after a consultation at the bedside. Such a procedure gives the

1. Miss C. Grace Courter, 389 Clifton Avenue, Newark, N. J.
2. Titus, N. E.: Physiotherapy Department of Beekman Street Hospital, New York, Mod. Hosp. 24: 400 (May) 1925.

surgical staff an insight into the way physiotherapy can help, and the surgeons at Beekman Street Hospital can now order treatments themselves with a good understanding of how physiotherapy can get the results that they wish.

SEROLOGIC STUDIES OF PROTEINURIAS

I. RESULTS OF PRECIPITIN TESTS FOLLOWING INJECTION OF ANTISTREPTOCOCCIC SERUM AND OF NORMAL HORSE SERUM *

RALPH M. TANDOWSKY, M.D.
SALT LAKE CITY

Often the physician, in treating a patient, assumes that the presence of protein in the urine is pathognomonic of renal disease. This may be true in a great number of cases, yet a certain percentage of patients coming under the observation of the physician show protein in urine when renal disease cannot be demonstrated. For example, after the ingestion of a heavy protein meal, the urine may show a considerable amount of protein. Occasionally the urine of a patient suffering with a metabolic disease contains protein in spite of the fact that renal disease is not demonstrable.

Sollmann and Brown,[1] in 1901, noted the presence of protein in the urine of human beings and animals after its parenteral introduction. They did not, however, use serologic methods to identify the protein excreted.

Cramer,[2] in 1908, noted that the injection of egg white and ox serum into the dog produced coagulable protein in the urine. The amount of protein excreted when the ox serum was administered was comparatively small. Evidently the proteins constituting ox serum were more easily metabolized by the body tissues. Cramer collected the samples of urine at two day intervals for four days. At the end of this time, the urine became free from protein. He used the intraperitoneal route for the administration of proteins to the animals. This probably accounts for the presence of protein in the urine for four days. Cramer's protein tests were nonspecific. He noted that the amount of egg white excreted varied from 25 to 90 per cent., while the ox serum was practically all assimilated by the body.

Freidmann and Isaac,[3] in 1905, reported that the subcutaneous injection of egg white into dogs and goats resulted in its excretion in a noncoagulable form. Although not completely utilized, it was partially broken down during its stay in the tissues.

A type of proteinuria is commonly seen in patients receiving treatment with serums or other foreign proteins. One case that came under my observation was of especial interest. A young physician suffering with a streptococcemia received as treatment large amounts of antistreptococcic serum, both intravenously and intraspinally. The urine collected yielded a heavy cloud of protein with the heat and acetic acid test. Only an occasional tube cast could be demonstrated to signify renal disease. After the serum treatment was discontinued, the urine returned to normal; all chemical protein tests proved negative. It has often occurred to me, since observing this case, that an unnecessary waste of serum takes place in the treatment of disease. This possibility, as well as the more common one of misinterpreting a positive finding of protein in the urine by ordinary chemical methods, has made a systematic serologic investigation appear desirable.

In this paper are reported the results of precipitin tests on the urine from patients who received antistreptococcic serum, and from dogs following the intravenous administration of normal horse serum.

The patients studied were in the erysipelas wards of Dr. J. C. Doane at the Philadelphia General Hospital. They were receiving antistreptococcic serum for the treatment of the disease. All the patients were in the second or third day of the disease. All were under 40 years of age, and offered an apparently good prognosis from the onset.

TABLE 1.—*Results from Precipitin Tests on Urine of Patients Receiving Antistreptococcic Serum Intravenously* *

Case	Amount of Serum Used, C.c.	Acetic Acid Albumin Test †	Precipitation Time Intervals (in Minutes from Time of Serum Administration)‡ 10	30	60	120	240	360	480	Case Rejection
1	100	V. F. T.	0	0	+	++	±	0	0	None
2	100	V. F. T.	0	0	++	++	+	0	0	None
3	100	F. T.	0	0	++	++	±	0	0	Chill
4	100	V. F. T.	0	0	++	++	±	±	0	None
5	100	V. F. T.	0	0	±	+	±	0	0	Chill
6	200	Negative	0	0	++	++	+	0	0	Chill
7	200	F. T.	0	0	+	++	+	0	0	None
8	200	F. T.	0	0	+	+	±	±	0	None
9	200	F. T.	0	0	+	++	+	0	0	None
10	200	F. T.	0	0	+	+	±	0	0	None

*From the erysipelas wards of the Philadelphia General Hospital; patients treated under the supervision of Dr. J. C. Doane (1923-1924). In all the cases the control urine was normal; 0.2 c.c. of phenolized sensitive serum was used.

† V. F. T., very faint trace; F. T., faint trace.

‡ Faint trace, ±; trace, ±; light cloud, +; cloud, ++; heavy cloud, +++.

TABLE 2.—*Results of Precipitin Tests on Urine of Dogs Following Administration of Normal Horse Serum* *

Dog	Amount of Horse Serum Injected, C.c.	Control	Precipitation Time Intervals (in Minutes from Time of Intravenous Serum Administration) 10	20	30	40	50	60	70	80	90	100
1	10	Clear	0	±	±	±	±	+	±	0	—	—
2	25	Faint cloudiness	0	0	0	+	+	++	0	0	—	—
3	25	Clear	0	0	+	±	±	±	±	0	—	—
4	25	Clear	0	0	0	++	++	+	0	0	—	—
5	50	Clear	0	0	±	±	+	++	±	0	—	—
6	50	Clear	±	+	++	+	±	±	+	0	—	—
7	50	Clear	0	0	++	Complete anuria followed by death						
8	50	Clear	0	0	0	±	++	++	++	++	0	0
9	50	Clear	0	0	0	+	+++	+++	++	+	Death of animal	
10	50	Clear	0	±	+	±	++	++	+++	++	0	0

* Experiments carried on in the Department of Physiology, University of Utah School of Medicine. In the tests on Dogs 1 and 2, 0.2 c.c. of phenolized sensitive rabbit serum was used; on Dogs 3 to 10, 0.2 c.c. of betanaphtholized sensitive rabbit serum.

Each patient emptied the bladder voluntarily or was catheterized, and was then given the antistreptococcic serum. Dosage ranged from 100 to 200 c.c. injected intravenously. The urine was collected at frequent intervals for eight hours. The precipitin test was made on each sample of urine as soon as possible after its collection. An acetic acid albumin test was made on each specimen. The results of this experiment are recorded in Table 1.

The technic of the precipitin test was as follows: Rabbits were immunized against horse serum, and their

* From the Physiological Laboratory, University of Utah.

1. Sollmann, Torald; and Brown, A. C.: J. Exper. Med. **6**: 207, 1901.
2. Cramer, W.: J. Physiol. **37**: 147, 1908.
3. Freidmann, E., and Isaac, S.: Ztschr. f. exper. Path. u. Therap. **1**: 513, 1905.

serum was collected after its titer had reached at least 1:60,000. To 3 c.c. of urine, 0.2 c.c. of sensitive serum was added at room temperature. In all the samples that were positive, the reaction was apparent within an hour. Urinary controls were used with each specimen tested. It will be noted that the urine of the patients receiving the serum first presented traces of horse protein in approximately one hour. This proteinuria continued for approximately four hours.

The ten dogs used in this study were anesthetized with Grehant's solution[4] and morphin sulphate. Normal horse serum was injected into the external jugular vein in doses varying from 10 to 50 c.c. Because of inaccuracies that might result from catheterization of the animals, the urinary bladders were exposed by an assistant and circumpacked with sterile gauze. A two way stopcock with a needle attachment was then inserted through the bladder wall. Prior to the introduction of horse serum, the urine in the bladder was drained off and used as controls for each animal. After the introduction of the serum, withdrawals of urine were made at ten minute intervals. The first specimen was removed ten minutes after the introduction of the serum, and withdrawals were continued from sixty to 100 minutes. Eight of the ten dogs made an uneventful recovery. In the two that died, acute nephritis could not be demonstrated. Death in these cases was apparently due to anesthesia. The precipitin tests were made immediately after the last sample had been collected.

The following preliminary conclusions can be drawn from the dog experiments: The greatest amount of protein excretion in the urine of dogs after the intravenous injection of horse serum occurs within the first eighty minutes. Appreciable amounts of protein could not be detected in the urine until thirty minutes after intravenous administration. It would appear that each animal has a certain renal threshold for the elimination of foreign proteins.

SUMMARY

1. Horse proteins are definitely eliminated by the kidneys of human beings and dogs.

2. Intravenous injection apparently results in a more rapid elimination by way of the kidney than other parenteral routes described by other writers.

3. When large doses of serum in disease are administered by the intravenous route, some of the serum proteins are filtered through the kidney.

4. The present study indicates the use of highly concentrated serums in the treatment of disease.

1344 Glenmare Street.

4. Grehant's solution (Stewart: Manual of Physiology, Ed. 8, p. 202) consists of chloroform, 50 c.c.; 95 per cent. ethyl alcohol, 500 c.c.; distilled water, 500 c.c., of which 6 c.c. per kilogram, with an equal amount of water, is given by stomach tube.

Insanity and Genius.—A streak of insanity, a streak of genius and creative imagination is not harmful to the race. The danger to the race is not from a tendency to a high degree of plasticity of the highest evolutional level, but to an increase of an inborn tendency to a functional or organic regression of it, resulting in various degrees of imbecility. As the higher grade imbecile possesses the animal passions and is fertile, it follows that more than a streak of mental deficiency in a race constitutes an urgent social problem of national importance. Hitherto nearly all the efforts of the state have been toward legal detention of the mentally afflicted (under humane conditions, it is true), but little has been done in the way of prevention or cure.—Mott, F. W.: *J. Ment. Sc.* **71**:647 (Oct.) 1925.

NATIVE CASE OF INFESTATION BY THE FISH TAPEWORM, DIPHYLLOBOTHRIUM LATUM *

M. W. LYON, JR., PH.D., M.D.
SOUTH BEND, IND.

Examination of published records shows that there have been eight unquestioned cases of native infestation with the fish tapeworm (*Diphyllobothrium latum*). These cases are those of Nickerson,[1] a boy aged 2 years, and a woman, Minnesota; of Warthin[2] and Arminen, a girl, aged 5 years, Michigan; of Riley,[3] a boy, aged 8 years, and an Indian child, Minnesota; of Calvin,[4] a girl, aged 7 years, and a boy, aged 3 years, Illinois, and of Wallace and Grant,[5] a woman, aged 25 years, Indiana.

A few cases of possible native infestation have also been recorded.[6] Owing to the fact that the patients in these cases were born abroad, there is some doubt as to their being true native cases even though the patients entered the United States as young infants. The extreme youth of patients in some of the undoubted native cases shows that infestation can occur at a very early age. Infestation also may continue for many years without showing symptoms caused by the worm.

These eight cases are sufficient to establish beyond a doubt the fish tapeworm as a parasite of man (definitive host) and of fishes (intermediate host) in the Great Lakes region of the United States. It seems desirable, however, to add a ninth case, in order to show the spread of the parasite and to point out that with the disposal of sewage into the Great Lakes the spread of this parasite will continue, and with the absence of fish inspection comparable to meat inspection, the fish tapeworm may some day become the most common large tapeworm of man in the Great Lakes region.

For the opportunity of reporting this case, I am indebted to Dr. Isadore Sandock of South Bend, in whose practice it occurred and who made the diagnosis of fish tapeworm infestation when the patient's mother, an unusually intelligent person, showed him spontaneously passed fragments of the worm.

REPORT OF CASE

A boy, aged 4 years, Jewish, born in South Bend, had never been farther away than Dowagiac, Mich. He lived at home with his parents, an older brother, his mother's sister and a maid. He always appeared normal and never showed any real symptoms of intestinal parasitism. Following the discovery of the parasite, however, his mother stated that for two years he had not shown the same physical activity as his brother, that his sleep was frequently restless, and that he had a tendency to pick his nose. At the time the worm was discovered he had an attack of scarlet fever, his only serious illness. At this time his mother noticed "great strings of material" in his stools, which, she states, had to be cut off.

* Read before the American Society of Parasitologists and Section N of American Association for the Advancement of Science, Kansas City, Mo., December, 1925.

1. Nickerson, W. S.: The Broad Tapeworm in Minnesota, J. A. M. A. **46**:711 (March 10) 1906; The Broad Tapeworm in Minnesota, ibid. **74**:457 (Feb. 14) 1920.

2. Warthin, A. S.: Pub. Health, Michigan **7**:78 (Jan.-March) 1912.

3. Riley, W. A.: The Broad Tapeworm, Dibothriocephalus Latus, in Minnesota, J. A. M. A. **73**:1186 (Oct. 18) 1919.

4. Calvin, J. K.: Native Infestation by the Broad Tapeworm, Diphyllobothrium Latum, J. A. M. A. **78**:84 (Jan. 14) 1922.

5. Wallace, J. C., and Grant, Margaret: Infestation by Broad Tapeworm, J. A. M. A. **78**:1050 (April 8) 1922.

6. Warthin (Footnote 2); Becker, W. C.: Illinois M. J. **30**:416 (Dec.) 1916.

This material was identified by Dr. Sandock as fragments of the fish tapeworm, and about a meter of them was brought to me for confirmation of identification. Shortly after the discovery of the worm and after the patient had fully recovered from his attack of scarlet fever, which was not severe, male fern was administered and the worm was expelled. Since the expulsion of the worm the mother declares that the boy is much more active, sleeps better, and does not pick his nose. When I made the last blood examination, six months after the worm had been expelled, the boy seemed much more active than at the time of the first examination. Whether this was really due to the removal of the parasite or to the effects of a summer of outdoor life following a spring attack of scarlet fever cannot be said. Blood examinations of the patient were made while the worm was present, and two months and six months after its removal. The improvement in the blood picture is so slight as to be almost negligible,

Blood Examinations

Cells	Before Expulsion of Worm	Two Months After Expulsion	Six Months After Expulsion
Erythrocytes (per cubic millimeter)	4,070,000	4,180,000	4,550,000
Hemoglobin (Kewcomer)	75	88	85
Leukocytes (per cubic millimeter)	8,100	9,100	6,300
Polymorphonuclears (per cent.)	33	30	27
Eosinophils (per cent.)	2	2	3
Basophils (per cent.)	0	0	0
Small lymphocytes (per cent.)	59	57	63
Large lymphocytes (per cent.)	4	4	5
Large mononuclears (per cent.)	2	4	1
Transitionals (per cent.)	1	3	1

especially in view of his attack of scarlet fever. The mother says that fish is eaten in the household about twice a week, and she feels confident that it has always been well cooked. The patient himself does not care much for fish, but the other members of the family, especially the father, are very fond of and eat much of it. Inquiry at a local fish market shows that much of the fish offered for sale is obtained from the Great Lakes.

A fragment consisting of about 1 meter of fish tapeworm, *Diphyllobothrium latum*, all mature segments and all well preserved, was submitted for identification.

The stool before treatment was instituted was solid and weighed 33 gm. One gram of this stool was emulsified with 25 c.c. of water, and 0.1 c.c. of this emulsion contained 100 ova of *Diphyllobothrium latum*, indicating 825,000 ova in the entire stool.

The stool following a cathartic and before the administration of male fern was liquid, with a volume of 200 c.c.; 105 ova were counted in a 5 mm. width of 0.1 c.c. of stool placed under a cover glass 50 mm. long, indicating 2,100,000 ova in an entire stool.

After administration of male fern and a cathartic, the stool was liquid and contained 2,400 mm. of *Diphyllobothrium latum*. The entire worm was well preserved; the width of the mature segments was 10 mm. and of the youngest segments attached to the main chain, 2 mm. A small detached fragment, somewhat injured by washing, had a width of 1 mm. and an expanded end 2 mm. wide. This portion probably represented the head, although well defined bothria were not found on it. Numerous ova were present microscopically.

Two months after the expulsion of the worm, ova were not found in the stool; nor were they found after six months. The stools of the patient's mother, father, 8 year old brother, aunt and maid, all living in same house as the patient and eating the same food, failed to show the presence of ova.

A few of the ova were washed free from most fecal débris and were kept in a conical glass many weeks at room temperature, the water lost by evaporation during this time being made up by the addition of distilled water. At no time was there any evidence of development of an embryo in the ova.

COMMENT

This is believed to be the ninth native case of infestation with the fish tapeworm in the United States.

Infestation with the fish tapeworm may occur at a very early age; in the present case earlier than 4 years and in cases reported by others as early as 2 years.

Infestation in the present case appears to have been an accident or else young children are more susceptible than adults, as an older brother in this case and four adults all eating the same fish were unaffected.

A person harboring a fish tapeworm may expel into the sewerage system about 1,000,000 ova daily. Ova do not develop readily under laboratory conditions.

The food requirements of a tapeworm must be considerable when it is realized that the worm can produce germ cells of both sexes at the rate of about a million each twenty-four hours. In the average patient this is probably well taken care of by that "factor of safety" which impels most persons to eat more than is really needed for immediate needs.

A person harboring a fish tapeworm may show almost no symptoms caused by its presence, and if the worm does not show evidence of disintegration there may be no essential change in the blood picture from normal.[7]

The spontaneous appearance of the parasite in this case during an attack of scarlet fever is interesting in showing the tendency of a parasite to leave its host when the normal environment of the parasite becomes altered.

Continued pollution of Great Lakes waters by sewage will probably cause the fish tapeworm to become a common parasite in the northern Middle West. South Bend sewers empty into the St. Joseph River, eventually reaching Lake Michigan.[8]

122 North Lafayette Boulevard.

THE EFFECT OF GAS ANESTHETICS USED IN LABOR

ON THE BLEEDING AND COAGULATION TIME OF THE NEW-BORN *

HEYWORTH N. SANFORD, M.D.
NEW HAVEN, CONN.

A considerable discrepancy exists among the values obtained by many observers for the normal bleeding and coagulation time of the blood in the new-born. These figures for both bleeding time and coagulation time vary from three minutes to ten minutes.[1] When similar methods of technic are used, it is obvious that there is some influential factor that must be taken into consideration. In an endeavor to discover this factor, the bleeding and coagulation time was taken on 600 infants at birth and during the first ten days of life, the entire series covering a space of two years.

MATERIAL

Of the 600 cases in this series, 200 patients were delivered with ethylene, 200 with nitrous oxide, and the remaining 200 without an anesthetic. This was easily made possible by the condition existing in the obstetric department whereby one obstetrician used ethylene in his cases, and another used nitrous oxide. The cases

7. Haden, R. L.: Am. J. M. Sc. **166**: 338 (Sept.) 1923.
8. Lyon, M. W., Jr.: Infection by the Broad Tapeworm, Diphyllobothrium Latum, J. A. M. A. **74**: 655 (March 6) 1920.

* From the pediatric and obstetric wards of the Presbyterian Hospital of Chicago.

1. Falls, F. H.: Coagulability of the Blood During Pregnancy, and in the New-Born, J. A. M. A. **79**: 1816 (Nov. 25) 1922. Rodda, F. C.: Determining Coagulation Time of Blood in New-Born, Am. J. Dis. Child. **19**: 269 (April) 1920. Lucas, W. P.; Dearing, B. F., and others: Blood Studies in the New-Born, Am. J. Dis. Child. **22**: 525 (Dec.) 1921.

in which no anesthetic was required, or so-called normal cases, were the regular ward cases in which no anesthetic was given unless a long labor or operative measure resulted.

The length of time of the anesthesia was taken into consideration, nothing under thirty minutes being considered in the anesthetic series. It was the practice of both obstetricians to start the anesthetic at the end of the first stage of labor, and very rarely did this run over two hours. The mean of the length of time of the anesthetic in the nitrous oxide series was found to be one hour and forty-nine minutes, and for the ethylene, one hour and fifty-four minutes.

In the two year period covered by this series of 600 cases, the coagulation and bleeding time was taken consecutively on each child born in the department. This was taken at birth, and during the first ten days of life.

Bleeding and Coagulation Time of Six Hundred Newly Born Infants

Average of This Series	Birth		24 Hours		48 Hours		6 Days		9 Days	
	Bleeding Time, Min.	Coagulation Time, Min.	Bleeding Time, Min.	Coagulation Time, Min.	Bleeding Time, Min.	Coagulation Time, Min.	Bleeding Time, Min.	Coagulation Time, Min.	Bleeding Time, Min.	Coagulation Time, Min.
No anesthetic	3	4½	3	4	3	4	3	4	3	4
Nitrous oxide	4	6	3½	5	3	5	3	4½	3	4
Ethylene.....	5	7	4	6½	4	6	3	5	3	4½

METHOD

A slight modification of Rudolf's [2] method was used in this series. The skin of the heel was thoroughly cleaned with green soap and alcohol, and allowed to dry. A deep puncture was then made in the heel, which resulted in a good flow of blood. This was drawn up into two glass pipets about 1 mm. in diameter, and 18 cm. long. The amount of blood drawn up should be approximately 9 cm. in each tube. The time of drawing the blood was noted, and the tubes immediately put into an incubator (dry heat) at a constant temperature of 20 C. The entire procedure was always carried out in the nursery, which was kept at a constant temperature throughout the year. At the end of one minute, one of the tubes was removed and a small piece broken from the end. This was repeated every thirty seconds until a thread of fibrin appeared between the broken ends. The time between the puncture and the appearance of the fibrin was taken as the coagulation time. The second tube was used as a control.

The bleeding time was taken by the method of Duke.[3] A puncture in the heel was made as described, and the accumulated drop blotted away by a piece of sterile gauze until no drop formed. The time between the appearance of the blood and its cessation of drop formation is the bleeding time.

These procedures were carried out immediately after birth, and at intervals thereafter of twenty-four hours, forty-eight hours, six days, and nine days. This work was always carried out by the same person to avoid individual differences that might prove a source of error. It was for this reason that the tests were made only every three days after the first two days, instead of every day. It was found that to take the blood every day, it would be necessary to distribute the work between two persons, and it was believed that this was not worth the possibilities of individual differences being a source of error.

The longest time was found in the series of no anesthetic. This was ten minutes bleeding time and thirteen minutes coagulation time. The child was one of twins, and weighed 5 pounds 12 ounces (2.6 Kg.). His sister's bleeding time was five minutes, with six minutes coagulation time. The labor was multiparous, lasting eight hours. Both children had normal bleeding and coagulation time at the end of nine days.

The next longest time was eight minutes bleeding time and twelve minutes coagulation time. This was a thirty-six hour labor, with nitrous oxide anesthesia of two hours and fifteen minutes, which was terminated by midforceps. At the end of nine days the infant's bleeding time corresponded to the normal for nitrous oxide, as shown by this series.

Both of these children were slightly cyanotic at birth, but had no other symptoms. They received no treatment of any kind and were perfectly normal thereafter.

COMMENT

The infants tested were of a sufficient number, and the period of time covered of such length, to show that the anesthetic used in labor has a definite effect on the coagulation and bleeding time of the new-born. This effect is a lengthening, which is greater in ethylene and less in nitrous oxide.

Graham,[4] in his work on the etiology of Weil's disease and other hemorrhagic conditions of the new-born, discussed the possibility of the anesthetic used in labor affecting the coagulation time. That chloroform and other liver poisons also influenced hemorrhage was stated by Whipple,[5] who found a drop in fibrinogen during chloroform anesthesia. Corin and Ansiaux,[6] at an earlier date, had found a drop in fibrinogen in phosphorus poisoning.

Assuming that fibrinogen is produced in the liver, or under its direct influence, there must be some injury or derangement of the liver function by the gas anesthetics that causes this drop in the normal production. This raises the question that if there is liver injury, why does it not appear in other clinical manifestations?

This may be answered in two ways. First, while it is true that a decrease in the concentration of blood fibrinogen has been reported in some cases of liver injuries, it is also true that there may be a great deal of pathologic change in the liver without disturbance of the fibrinogen concentration or blood coagulation. This can be explained, however, by the fact that only from 15 to 20 per cent of the normal quantity of liver tissue is necessary to meet the ordinary body needs.[7] Second, under the influence of certain substances such as the proteoses, the liver produces products that both accelerate and retard coagulation, the so-called antithrombin and heparin elements. Do the gas anesthetics act similarly to the proteose substances, or do they have the common property, such as partial asphyxia, which causes these substances that retard coagulation to be formed?

SUMMARY

1. Nitrous oxide causes a prolongation of the average bleeding time at birth of one minute, and the

2. Rudolf, R. D.: A Clinical Method of Estimating the Coagulation Time of the Blood, Am. J. M. Sc. **140**: 807, 1910.

3. Duke, W. W.: The Relation of Blood Platelets to Hemorrhagic Disease, J. A. M. A. **55**: 1185 (Oct. 1) 1910.

4. Graham, E. A.: Chloroform Poisoning in the New-Born, Tr. Chicago Path. Soc. **8**: 89, 1909; Pathogenesis of Hemorrhagic Diseases of the New-Born, J. Exper. Med. **15**: 307, 1912.

5. Whipple, G. H., and Hurwitz, S. H.: Fibrinogen of the Blood as Influenced by Liver Necrosis of Chloroform Poisoning, J. Exper. Med. **13**: 136, 1911.

6. Corin, G., and Ansiaux, G.: Untersuchungen über Phosphorvergiftungen, Vrtljschr. f. gerichtl. Med. **7**: 80, 1894.

7. Mann, F. C.: Studies on Physiology of the Liver, Am. J. Physiol. **65**: 267 (July) 1923.

coagulation time of two minutes. Both, however, correspond to normal in nine days.

2. Ethylene causes a prolongation of the average bleeding time at birth of two minutes, and the coagulation time of three minutes. Both, however, have practically returned to normal in nine days.

650 Orange Street.

GASTRIC ACIDITY IN SYPHILITIC CHILDREN *

MAURICE DORNE, M.D.; W. A. BRAMS, M.D.
AND
I. HARRISON TUMPEER, M.D.
CHICAGO

In view of Neugebauer's report [1] on the hypo-acidity found in syphilitic persons, it was thought that an examination of the gastric acidity in a group of syphilitic children might prove interesting. The German observer found in a group of 200 syphilitic recruits from 20 to 25 years of age that, before treatment was carried out, 62 per cent. manifested hypo-acidity, 18 per cent. anacidity and 17 per cent. hyperacidity. In general, he found a persistent hypo-acidity to the point of achylia. Neugebauer offers the explanation that the lowered acidity is due to a change in the tonus of the vagus, a direct disease of the mucosa or a combination of these factors. He attributes the cases of hyperacidity to a temporary phase preliminary to the ultimate anacidity.

TABLE 1.—*Analysis of Gastric Contents of Twenty-One Syphilitic Children After Test Meal*

Patient	Age	Wassermann Reaction Plus	Free Acidity	Total Acidity
1. N. I.	8	4	12	57
2. E. S.	13	4	0	8
3. S. A.	13	3	17	42
4. M. M.	6	4	0	8
5. F. A.	9	1	3	16
6. P. C.	9	4	6	18
7. I. B.	10	1	14	28
8. L. M.	10	1	11	21
9. J. S.	12	4	16	40
10. E. P.	10	4	17	38
11. R. B.	4	4	10	20
12. E. S.	13	4	9	16
13. A. B.	11	4	8	19
14. F. F.	11	3	11	22
15. S. B.	10	4	28	50
16. H. B.	4	4	0	12
17. J. C.	13	4	0	20
18. R. F.	10	1	6	13
19. L. F.	11	4	17	34
20. F. Z.	13	4	0	5
21. E. K.	13	3	14	36
Totals (21 patients)	210		199	543
Averages	10		9.5	24.9

In our investigation, twenty-one children, from 4 to 13 years of age, with positive Wassermann reactions, who were under treatment with neo-arsphenamin for varying periods, were studied. Test meals were given, consisting of two soda crackers and 150 c.c. of slightly sweetened weak tea, and the contents aspirated one hour later. The titrations were performed with dimethyl-amido-azobenzene for free, and phenolphthalein for total, acidity indicators.

To evaluate our findings, a group of children without syphilis and gastro-intestinal disturbance were administered similar test meals and their gastric contents analyzed. The results obtained are given in Table 2.

The groups in Tables 1 and 2 offer a fair basis for comparison with the syphilitic factor as the variant as the average age was similar, the same test procedure was carried out, and there were no gastro-intestinal complications in the control series. Comparison shows that, as a group, the syphilitic children manifest a value of 9.5 free acidity against 19.4 of the controls, proportionately 50 per cent. Total acidity values are 24.9 against 41.6, a proportion of 60 per cent.

From the standpoint of individual cases, it is seen by reference to Tables 1 and 2 that one of the twenty-one syphilitic children gave a free acidity above the normal average, 19.4, as compared with seven of the seventeen controls, or 4.4 per cent. against 41 per cent. There were twenty of the twenty-one syphilitic children below the normal free acidity average, as compared with ten of the seventeen controls, or 95.6 per cent. against 59 per cent. This analysis indicates that the syphilitic child is, approximately, one tenth as likely to manifest free acidity above the normal average (4.4 per cent. against 41 per cent.) and, approximately, twice as likely to manifest lowered acidity as the normal child (95.6 per cent. against 59 per cent). As regards total acidity, three of the twenty-one gave values above the normal average, 41.6, as compared with seven of the seventeen controls, or 13.7 per cent. against 41 per cent. Below the normal total average were eighteen of the twenty-one syphilitic children compared with ten of the seventeen controls, or 86.3 per cent. against 59 per cent. This analysis indicates that the syphilitic child is approximately one third as likely to manifest total acidity above the normal average as the normal child and approximately half again as likely to run below the normal average.

TABLE 2.—*Analysis of Gastric Contents After Test Meal in Seventeen Children Without Syphilis or Gastro-Intestinal Disturbance*

Patient	Age	Free Acidity	Total Acidity
22. S. W.	8	30	50
23. H. M.	10	18	30
24. B. R.	12	23	40
25. I. W.	7	12	28
26. R. R.	11	12	26
27. S. R.	13	15	37
28. H. S.	12	10	22
29. M. G.	10	12	28
30. L. A.	8	10	28
31. E. C.	11	22	43
32. I. S.	10	18	29
33. H. S.	12	19	47
34. F. B.	10	27	57
35. B. W.	11	12	63
36. M. G.	10	22	37
37. M. G.	14	56	69
38. S. A.	10	12	72
Totals (17 patients)	180	330	706
Average	10.6	19.4	41.6

TABLE 3.—*Group Comparisons with 10 Years of Age as Dividing Line*

	Free Acidity			Total Acidity		
	Control	Syphilitic	Per Cent. of Hypo-acidity	Control	Syphilitic	Per Cent. of Hypo-acidity
Below 10 years	17.9	9.7	54	39.9	25.5	64
Above 10 years	21.1	9.2	43.6	43.4	24.2	56

From the Serology Clinic of the Michael Reese Dispensary.

1. Neugebauer: Wien. klin. Wchnschr. **27**: 845, 1914.

2. Brüning, H.: Deutsch. med. Wchnschr. **46**: 883 (Aug. 5) 1920.

3. Jacobsen, A. T. B.: Gastric Secretions in Young Children, Ugesk. f. Læger **81**: 863 (May 22) 1919; abstr., J. A. M. A. **73**: 306 (July 26) 1919.

4. Hertz: Acta Paediat. **1-2**: 298, 1921-1923.

In the publications on gastric contents in children, notably those of Brüning,[2] Jacobsen [3] and Hertz,[4] age groups are frequently considered. Analysis of

our results with 10 years of age as the dividing line, after Brüning, furnishes the data given in Table 3.

The figures in the table demonstrate that in both age groups above and below 10 years the free and total acidity values are markedly lower in syphilitic children than in controls. From the standpoint of individual cases, the data in Table 4 are obtained.

TABLE 4.—*Comparison of Acidity Values in Syphilitic Children and Controls Under 10 Years*

		Free Acidity				Total Acidity			
		Above		Below		Above		Below	
	Number	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.
Syphilitic	11	*1	9	10	91	2	18	9	81
Controls	9	5	55	4	45	3	33	6	67

It can be seen from Table 4 that the syphilitic child under 10 years is one sixth (9 per cent. against 55 per cent.) as likely to have a free acidity above the normal average as the control and is approximately twice (91 per cent. against 45 per cent.) as likely to have a lower acidity value than the normal. As regards total acidity, he is approximately one half (18 per cent. against 33 per cent.) as likely to have a higher value and approximately one fifth again as likely to have a lower value than the control.

TABLE 5.—*Comparison of Acidity Values in Syphilitic Children and Controls Above 10 Years*

		Free Acidity				Total Acidity			
		Above		Below		Above		Below	
	Number	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.
Syphilitic	10	0	0	10	100	0	0	10	100
Controls	8	3	37	5	63	3	37	5	63

The comparison in Table 5 indicates that the syphilitic child over 10 years tends throughout to have acidity values lower than the control, with no tendency to manifest higher individual values. This phenomenon agrees with Neugebauer's belief that lower values than normal prevail, and that the finding of individual hyperacidity values is merely the precursor to a drop in those values.

COMMENT

The findings of Neugebauer are substantiated in these observations in children. Viewed from all angles, the data demonstrate lowered acidity in the gastric contents of syphilitic children. This is apparent from a comparison of the average values of a group of controls and a group of children with syphilis. It is further borne out in separating the individual cases of both groups and comparing the relative proportions of cases above and below the normal average of each group. The same facts are disclosed when the series is split into age groups.

Separation of individual cases in the manner described more accurately and completely expresses the facts. Data concerning conditions in the unknown must be related in terms of the known. Neugebauer's conclusion, for instance, that 80 per cent. of syphilitic persons show hypo-acidity is misleading, because it implies that hypo-acidity is itself abnormal, and that individuals otherwise normal do not manifest hypo-acidity, i. e., values below the normal average range. By virtue of the definition of average, there must be a certain proportion of normal individuals with values above the average and a certain proportion below this average. Therefore, Neugebauer's 80 per cent. must be related to the percentage of normal individuals who show hypo-acidity. In this way a conclusion may be drawn which more accurately describes the greater tendency of the syphilitic individual to exhibit low gastric acidity. This plan has been followed in the analysis of our data.

The term approximately is used advisedly throughout the discussion, first, because the proportions are expressed in round numbers for convenience, and, secondly, the results in a small number of cases, although carefully controlled, are approximate for the situation in general. However, greater accuracy attaches in this instance, because the results of analysis markedly and consistently indicate relative hypo-acidity.

The same conclusions were arrived at by the use of Brüning's normal acidity tables for age groups of children, but we established controls of our own which would more accurately express similar factors such as class, race, geography, and the diet of the children, and the personal equation of the observer.

Clinical Notes, Suggestions and New Instruments

CEREBELLAR ABSCESS: OPERATION AND RECOVERY*

HENRY M. GOODYEAR, M.D., CINCINNATI

A man, aged 26, whom I saw, May 10, 1925, gave the following history relative to his ear and brain complication:

Eight weeks prior to this time he complained of an acute sore throat followed by severe pain in the left ear. Twenty-four hours later the drum ruptured spontaneously, and a continuous pus discharge followed, without mastoid tenderness at any time. The patient continued about his work as usual.

However, there occurred, six weeks after the onset and two weeks before I saw him, a sudden significant attack of severe pain over the left side of the head, accompanied by nausea and vomiting. After thirty-six hours, these symptoms subsided and the patient felt well, played golf and did his work as usual, until four days before I saw him, when he again developed a severe pain over the left occipital region, accompanied by marked nausea, vomiting and dizziness.

When I saw the patient, he was lying on his right side with the head flexed. He was afraid to move for fear of exciting severe attacks of pain over the left occipital region, with increased vertigo and vomiting. He looked thin, pale and unusually ill. He was mentally clear. There was rotary quick nystagmus to the right, the past pointing was normal, and no weakness or ataxia could be discerned. The knee-jerks, Babinski and other reflexes appeared to be normal. There was no pain in the ear or about the mastoid. There was some slight pain over the left temporal area and constant pain over the left occipital area, with intermittent excruciating attacks.

A thick pus discharge was coming through a perforation in the posterior lower quadrant of the left tympanic membrane. There was no sagging of the canal wall, or evidence of granulations or polypi noted, nor was there any mastoid tenderness. The hearing was not completely lost. At no time in the course of the illness had there been any chills or chilly sensations or temperature over 100 F.

A history of scarlet fever and a discharging ear for several weeks, when the patient was a child, suggested an old sclerotic mastoid.

The heart and lungs were normal, and I advised immediate operation, as there was already evidence of extension beyond the mastoid area.

When the left mastoid was opened, it was found to be almost completely sclerosed, with no evidence of pus until the sinus was uncovered, when a pulsating flow of pus occurred.

* Read before the Cincinnati Academy of Medicine, Nov. 23, 1925.

A large abscess was uncovered over the lateral sinus and downward and posteriorly over the cerebellum. The granulations over the sinus were from one-half to three-fourths inch (from 1 to 1.8 cm) thick. These were not disturbed but uncovered widely. The antrum was widely opened and the posterior bony angle between the middle fossae and sinus was completely removed, exposing granulations on the dura.

A cigaret drain was extended to the antrum, and the upper part of the wound was closed.

The patient showed immediate improvement, and the nausea and vertigo ceased. This improvement continued for about one week, when the symptoms preceding the operation recurred. Again the patient was unable to retain food, or lie other than on his right side without increasing the vertigo and nausea.

There was no abnormal past pointing or weakness noted in the left extremities. The hearing was decreased but present, and no abnormal reflexes were detected.

The patient was 150 miles from Cincinnati, and it was necessary to transport him on a stretcher by train so that I might have him under closer observation.

The temperature did not rise above 99; the white blood count was 9,000, with 85 per cent polymorphonuclears. The urine was normal.

Dr. Stanberry reported the eye grounds to be normal.

Dr. Kiely found no abnormal reflexes at this time. We decided not to do a spinal puncture, as the patient was already very uncomfortable and there was sufficient evidence for exploration.

The old wound was opened under local anesthesia. Some pus was found extradurally in the posterior mastoid angle, but there was no evidence of dural destruction. The occipital pain immediately ceased, and the patient said he felt greatly relieved. Reopening the old wound probably had the effect of a decompression.

The nausea and vomiting were relieved for several days, and then recurred with drowsiness and some weakness, and ataxia of the left arm and leg. The temperature was 100

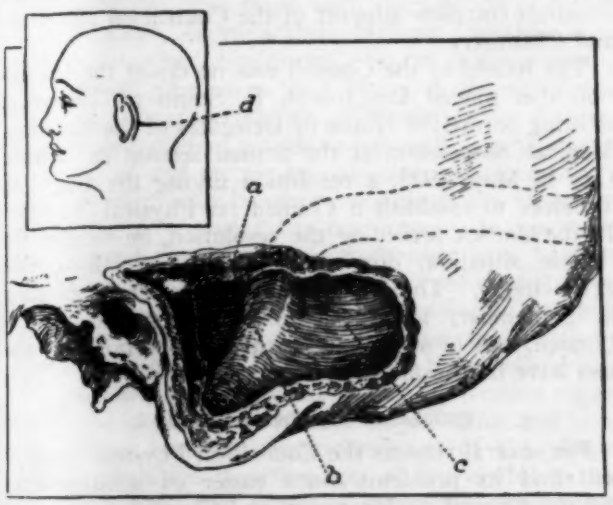

Fig. 1.—Exposure of dura covering cerebellum: *d*, supplementary skin incision for adequate exposure of bone; *a*, cerebellar region in front of sigmoid sinus; *b*, sigmoid sinus; *c*, cerebellar region behind the sigmoid sinus. (Modified after Kerrison.)

and the pulse 120. There was also evident at this time a paralysis of the external rectus muscle of the left eye.

Under local anesthesia, I uncovered the cerebellum below and posterior to the lateral sinus (fig. 1). When the dura was opened there was some bulging of the cerebellum, but no evidence of adhesions or inflammation. The subarachnoid space was packed off with iodoform gauze, and a blunt brain knife was inserted backward and medially into the cerebellum for a distance of three-fourths inch. There was a welling of pus. A perforated rubber tube was inserted and sewed to the scalp after the method of Elsberg (fig. 2).

There was no marked improvement after the operation, and the pulsations of the brain had a tendency to pump the tube out. On the sixth day after inserting the tube, and after the patient had been irrational for several days, I removed this tube, which had shown no drainage of pus, and with a grooved director entered the abscess again. More than an ounce (30 cc.) of pus escaped, three fourths of which was drained into a measuring glass. The director seemed to fall into a large cavity which was very deep. In fact, a rubber tube inserted for drainage was buried by actual measurement to a point 2⅜ inches (6 cm.) inside the dura.

The tube was kept in place by means of adhesive tape, and gradually removed after ten days, and completely removed on the twenty-third day after the dura was opened.

The patient became rational several hours after the second drainage, and from that time forward the recovery was uneventful.

Fig. 2.—Drainage tube sutured into place, and wound closed.

At the present time, the patient appears to be perfectly well. The hearing is good, and there is no ataxia or disturbance of reflex.

Culture from the abscess was negative. However, no attempt was made to take cultures under tension or anaerobic conditions.

I observed this patient rather painstakingly for past pointing to the left, but there was no abnormal pointing at any time.

In cases in which past pointing to the side of the cerebellar abscess has been observed, the abscess has usually been reached and found adjacent to the area anterior to the sigmoid sinus. The absence of this phenomenon and the finding of an epidural abscess at the primary operation over the cerebellum posterior to the sigmoid sinus led me to explore the cerebellum posterior to this vessel.

556 Doctors Building.

A RACK FOR STOMACH TUBES

JOHN L. KANTOR, M.D., NEW YORK

Every one knows how perishable stomach tubes are under ordinary conditions of usage in hospital and dispensary, if not in private, practice. They are often kept in basins and curled to save space. As a result, the tubes soon tend to assume the shape of the containing vessel, break and have to be discarded. The same condition applies to duodenal and intestinal tubes.

The rack here described provides a convenient method for the storage of stomach and duodenal tubes. It consists essentially of one or more rows of dowel-pins projecting down from a board. This board should be at least 5 feet from the ground, so as to allow room for the longest tubes to hang free. The dowels, which are tapered at their free ends, vary in diameter from three-eighth to one-eighth inch, depending on the size of the rubber tubing to be suspended from them, and are about 2 inches long. The tubes are kept in place by being slipped over the proper sized dowels, so that they fit snugly. The entire apparatus, consisting of rack and tubes, may be attached to a wall or be built into a closet, if preferred.

ADVANTAGES OF RACK

The advantages of this method of storage are obvious. With the tubes hanging from their respective pins, drainage is free and evaporation (drying) rapid. There is no curling and no wearing of one side of the tube more than the other, so that the life of the rubber is prolonged immensely. Some tubes have been in daily use up to four years. The rack may be employed for the storage of rubber tubing (catheters, enema tubes, rectal tubes, stock tubing) needed for almost any clinical or laboratory purpose.

145 West Eighty-Sixth Street.

Special Articles

THE COUNCIL ON PHYSICAL THERAPY *

MORRIS FISHBEIN, M.D.
Editor, The Journal of the American Medical Association
CHICAGO

The editor's occupation affords him opportunity to display either broad and comprehensive ignorance or erudite knowledge of many topics before audiences composed of specialists in various fields. Following his glittering generalizations he is likely to become the recipient of anathema and vituperation for his disagreements with long-held opinions. Obviously, the knowledge of physical therapy which forms the basis of the considerations here presented is not derived from personal observation of the devices used in physical therapy, from an intimate study of their effects on animals or on patients, or even from their trial on a physical constitution inured to punishment by the trials of numerous tooth pastes, breakfast foods, condensed, dried and powdered milks, or other samples conferred on editors by earnest manufacturers and a progressive advertising department. Such statements as are here made public result from the reading of innumerable manuscripts submitted by aspirants for fame in the field of physical therapy; from the reviewing of a considerable number of major opuses that have emanated from the pens of physical therapeutic scribes—some obviously, some possibly, some ostensibly, and some not likely in the employ of concerns producing apparatus; from conferences with many specialists in this growing field, and, finally, from an attempt to apply to the assembled information what is known as editorial judgment—a thing sometimes called by cynics the result of a disordered digestion. Indeed, if I may be pardoned the parody, and if I may disavow any intention to dispose of physical therapy in a premature postmortem, I may make my apology for discussing this subject in much the same words that Mark Antony used in his address over the body of dead Caesar:

> I come not, friends, to steal away your hearts,
> I am no orator, as Brutus is;
> But, as you know me all, a plain, blunt man
> That love my friend; and that they know full well
> That gave me public leave to speak of him;
> For I have neither wit, nor words, nor worth,
> Action, nor utterance, nor the power of speech
> To stir men's blood; I only speak right on.
> I tell you that *which you yourselves do know.*

THE CREATION OF THE COUNCIL

When Dr. George H. Simmons assumed editorial control of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION a quarter of a century ago, he found its advertising pages filled with the claims of drug manufacturers for therapeutic combinations that put to blush the formulas of the dreck-apotheke of the middle ages. And that situation was not only tolerated by the medical profession of that time but actually encouraged by the majority of medical periodicals, because they derived from it their pecuniary support. The account of the warfare led by Dr. Simmons, Dr. Frank Billings and others against this situation is an inspiring one. The establishment of the Council on Pharmacy and Chemistry was the most significant move in that battle. It was a stimulus to scientific pharmacologic investigation in universities and to creation of scientific staffs in industrial concerns.

The Council on Pharmacy and Chemistry was inaugurated to oppose the deluge of misinformation concerning drugs coming from unrecognized and even unidentifiable sources. For more than twenty years the Council has fought, and in many instances the fight has been successful. But none of us would assert that the Council on Pharmacy and Chemistry has succeeded in stamping out fraud or imposition in drug therapy. Such a preposterous statement would no doubt be met with raucous laughter coming first from the very physicians who have failed to support the Council's efforts and also from the manufacturers who could blithefully produce the sales records of unaccepted products. The Council has, however, kept the faith both with itself and with the organization that created it. The Council has listed products of merit and has condemned those based on fallacy. Physicians have been provided with a guide book which they may consult when they feel that the unbiased opinions of leaders in the field of chemistry, medicine and drug therapy are a better index to the truth than are the simple and credulous beliefs of unthinking practitioners of medicine, and the highly colored, flamboyant invitations to purchase of enthusiastic manufacturers. Fortunately, there exist today numerous manufacturing houses in the field of drug therapy which have felt that good business, not to mention good commercial ethics, demands complete support of the Council on Pharmacy and Chemistry.

The record of the Council was no doubt the inspiration that moved Dr. Joseph F. Smith of Wisconsin to bring before the House of Delegates of the American Medical Association at the annual session in Atlantic City in May, 1925, a resolution urging the Board of Trustees to establish a Council on Physical Therapy. In the clauses preceding the resolution, he defined the chaotic situation, dominated by commercialism, that exists today. The Board of Trustees, at its meeting in September, made the first appointments to the Council, and in a preliminary meeting certain committees have been established to take up the work.

PROBLEMS OF ORGANIZATION

For several reasons the Council on Physical Therapy will find its problems much easier of solution than did the Council on Pharmacy and Chemistry. One of the most important reasons is the existence of the American Electrotherapeutic Association. Since the time when it first became apparent that there is wisdom in counsel and in the assembling of many minds, men have met not only for the pleasure that comes with gregariousness but also for mutual defense and support. So well is this principle recognized that the development of any new field in medicine is promptly followed by the organization of some body for its investigation and promotion. Such titles as the American Association of Peroral Endoscopists, the Pittsburgh Slit Lamp Association and the American Association of Intrathoracic Surgeons are indications of the detail to which organization may proceed. It was no doubt this striving for the truth that urged

* Read before the American Electrotherapeutic Association, New York, Jan. 6, 1926.

the initial development of the American Electrotherapeutic Association. But let us not forget also that shrewd promoters have been among the first to realize the benefits of assembled minds and unified action. The astute Albert Abrams was the organizer of a half-dozen medical societies, each for the promotion of a peculiar system of therapy which he unloaded on an unsuspecting and long suffering profession. The American Association for Medico-Physical Research, which today devotes itself to a multitude of vagaries, including those of Abrams, has already opposed bitterly the formation of the Council on Physical Therapy of the American Medical Association.

In the development of the American Electro-Therapeutic Association, as in the opening of every new field, a few pioneers were active. Reversing here our Shakespearian Mark Antony, let us say that the good that they have done will live after them. As with pioneers in every field, it is easy to forgive them much, for they knew not always what they did. The pioneer is, in fact, a peculiar psychologic type. His very name indicates that he is one who presses forward regardless of obstacles. In his advance he is likely to disregard factors that those who follow him must recognize; his oversights are corrected with a loving kindness that in no way reflects on the spirit with which he moved.

The advance of electrotherapeutics under the guidance of its pioneers was an enthusiastic but bitter warfare against a stubborn and conservative medical profession. The introduction of unknown forces into the treatment of disease meant that physicians untrained in the basic sciences on which a comprehension of these forces depends must begin anew their period of infancy and education, or yield their patients and their livelihood to those better informed. So far as electrotherapy is concerned, physicians have felt, no doubt with reason, that they must be shown. Whether this fortunate scientific skepticism was founded on a scientific frame of mind, or was merely an obstinate resistance to what was apparently an incomprehensible phase of medical treatment, is a matter for conjecture. In any event, the inspired pioneers of electrotherapy have had little patience with opposition, no doubt feeling that it was not based on comprehensive understanding of the things which to them seemed as simple as the child's alphabet. Let us, with editorial judgment, take the middle ground. No doubt the position of the medical profession regarding physical therapy has been unreasoning and blind; but just as certainly the enthusiasms of the pioneers were a beautiful manifestation of the credulous will-to-believe. Science demands controlled observations; it requires due precautions against the will-to-believe, definite allowance for the *vis medicatrix naturae,* and simple admission that there is much that we do not know. The repetition of these aphorisms may sound as infantile as the squeaky "mamma" of the Christmas doll; but, alas, how necessary the repetition seems to be! When the allowances are all made, it seems that more must be granted at this time to those who opposed than to those who proposed, in the field of electrotherapy.

With the passing of time, the pioneers began to adapt themselves for the most part to the knowledge that medicine began to acquire from the fundamental sciences. The discoveries in chemistry, in physics, in biology, in physiology and in pathology began to make themselves felt in the physical therapeutic field. If one scans the reports made before this society through the passing years, the names of masters of these related fields will be found in the records. Always apparent is the intent to eliminate the unscientific, to determine the actual physical basis of apparatus and of methods, to detect physiologic and pathologic changes such as may have occurred. The annual reports are a mine of information to those who are interested in tracing the development of electric therapeutics as a science.

The work of the American Electrotherapeutic Association has been in large measure responsible perhaps for the gradually changing attitude of the medical profession toward the use of electrical devices. Confronted by the mystery of the radio, by the astounding fact that photographs may be transmitted by electrical means, by talking movies and by similar phenomena of our modern luxurious life, it is not strange that any one is ready to believe anything. Where, then, is the physician to turn for the truth? Learned perhaps by bitter experience, or conversant with the work of the Council on Pharmacy and Chemistry, many physicians have turned to organized medicine, as represented by the American Medical Association, for advice in this field. Their questions, coming to the headquarters office in increasing numbers each day, indicate a readiness to be taught, provided they may have teachers in whom their confidence will not be misplaced.

THE TEACHERS OF PHYSICAL THERAPY

Education in physical therapy today may be had through the available literature, represented by advertisements, pamphlets, articles in periodicals, and textbooks; through courses in physical therapy given by well established schools and hospitals, by the paid representatives of manufacturing concerns, and by impromptu teachers with no credentials other than a profound belief in their own erudition; through the suave representations of detail men who know well how to befuddle the brain of the busy practitioner with a nomenclature fit for nothing so much as the construction of crossword puzzles. Indeed, like all the literature of medicine, of art, of science, of religion and even of literature itself today, that of physical therapy may be divided into two main groups—the commercial literature and the literature of science. The groups infringe on one another to the extent that the literature of commerce is scientific and that the literature of science is commercial. Even a moron might follow easily the path of commerce or of science; but the unenlightened physician who wishes to tread the devious path between will need a guide to prevent him from straying into blind alleys and treacherous by-paths, and, indeed, from losing his way altogether.

At the meeting of the Modern Language Association held in Chicago recently, William McFee suggested that the American literature of the future would perhaps be the literature of commerce rather than the literature of science and of art. Since commercial organizations demand and pay for the best available literary talent, the magazine of the future may well consist of a central section of advertising written by masters in the literary field, surrounded by the rather dull pages of fiction produced by apprentices in the trade. Of course, even under the present arrangement it is hard to tell where the fiction ends and where the advertising begins in many periodicals. The cautious purchaser never

forgets that the aphorism "Whose bread I eat, his song I sing" represents the psychologic observation of centuries.

The literature of commerce is a literature of affirmation; search as one may through page on page of circular, bulletin or advertising pamphlet, the statement of negation is a rarity. The literature is inspirational, leading inevitably to the signature on the dotted line. Even the most stupid of readers must already have noted the application to the field of electrotherapy of the fundamental psychologic fact discovered perhaps by Messrs. Macfadden and Hearst and widely exploited in their periodicals. Most of the illustrations used in the folders on physical therapy, observant readers have pointed out, represent the application of physical therapeutic methods, not to unfortunate soldiers, coalminers and teamsters, but to beautiful damsels, apparently in the pink of health, who have unveiled quite excessive portions of their intimate anatomy for the local application of a one-square inch electrode or the application otherwise of the healing heat or invisible ray.

The literature of electrotherapeutics, as I have intimated, comes sometimes frankly with the mark of commerce stamped on its pages; sometimes camouflaged behind the name of a physician who obviously is in the employ of, or has most certainly been influenced by, the concern devoted to the sale of the particular device. Frequently it is nevertheless the earnest effort of a sincere scientist to record his honest observations for the good of his fellow physicians and for the benefit of mankind. Actually, the field of physical therapy is not nearly so bestrewn with the flimsy invitations of verbose commercial barkers as was the field of drug therapy at its worst some twenty-five years ago. There are, and have been, in the electric manufacturing field producers who have seen that permanent business demanded soundness from the start. They have proceeded cautiously in the issuing of advertising matter. They have attempted to state the facts concerning their devices and left it to scientific observation by clinicians to provide the claims. These firms have been among the first to welcome the establishment of the Council on Physical Therapy of the American Medical Association, for they have felt that its establishment meant to them support in the advancement of a sound industry. On the other hand, some manufacturing concerns have champed impatiently at the delay in adoption of their devices by cautious members of the medical profession. These business men, not content with the scientific observations made in well controlled laboratories and clinics, have gone afield for the provision of their material, or have purchased the full time of easily credulous and perhaps not too meticulously ethical observers to supply claims for their machinery. The statement is a broad one, but it will be supported in due time by documentary evidence.

An investigation of the curriculums of medical colleges indicates that but few are ready to give courses in this branch of medical treatment. A survey of the hospitals of our country finds few of them adequately equipped with physical therapeutic apparatus; many are supplied with obsolete and inefficient, perhaps sadly rusted and degenerated, types; still others, equipped in the heyday of some lax political appropriation, present whole edifices devoted to intricate apparatus, both good and bad, which lie idle because of the lack of competent men and women to manipulate them. In this situation the practitioner turns naturally to possible sources of information.

The physician is informed by one concern or another that he may secure the privilege of instruction from an expert who is endowed by the manufacturing concern which promotes him with nothing short of celestial wisdom. The courses are offered free or for nominal sums, but are nevertheless commercial courses. Try as it may, the manufacturing concern which endeavors to promote the sale of its devices by the direct teaching of the physician cannot separate its teacher from the charge of commercialism. That teacher may be honest, his intentions may be of the best, he may even attempt to lean backward to avoid the taint of commercialism; but, as the poet eulogized:

> You may break, you may shatter the vase if you will,
> But the scent of the roses [?] will hang round it still.

Contrast with the flaming promulgations of commerce the modest announcement of the course in physical therapy offered by Columbia University, which I select merely as a local example. Here is no blatant shouting of unusual virtues; merely the statement that the course has been planned for licensed practitioners of medicine only, that it includes six weeks of daily clinical work together with suitable lectures, and that it is offered to provide a working knowledge of the subject. Here is no announcement that physical therapy will bring to the practitioner taking the course extraordinary and increasing fees; no statement that the use of these electrical devices will win for him such practice as is now secured by self-advertising cultists; no inducement on the grounds that the flashy apparatus, issuing dazzling sparks and quivering rays, will attract to his books the misguided morons who are unable to distinguish between sense and sensibility. Here is the contrast between science and charlatanism.

The Council on Physical Therapy will hardly be called on to define suitable educational procedures or to list competent teachers in physical therapy. Medical education is the purview of another council of the American Medical Association. But the Council on Pharmacy and Chemistry, working with the Council on Medical Education and Hospitals, has done much to promote sound education in drug therapy. It has established its list of useful drugs; it has provided medical students with the list of New and Nonofficial Remedies approved by the Council; it has secured the cooperation of medical schools in the promotion of its work; it has made grants for research in established laboratories to settle matters of doubt; it has published symposiums on biologic therapies, on glandular therapy, and on similar special topics in its field. And already the Council on Physical Therapy has indicated a willingness to undertake similar plans in its field. The Council realizes that education is necessary not only for the practitioner but more particularly for the students of today who will be the practitioners of tomorrow.

TEXTBOOKS OF ELECTROTHERAPY

Again and again physicians have addressed letters to the headquarters office of the American Medical Association asking simple questions as to the merits of individual devices, inquiring regarding the most fundamental facts of physical knowledge, and in many instances merely requesting direction to sound literature which they might consult for information on some subject. Unfortunately the textbooks, like the science

itself, are undergoing a process of development which makes difficult dependence on any one of them. The most conservative find it necessary to limit so greatly the field of electrotherapeutics, and even of light therapy apart from therapeutics, that the practitioner is likely to consider its study, and most certainly investment in apparatus, little worth while. On the other hand, the enthusiastic outbursts in volumes by accepted leaders in this field are a strain on the credulity of the most mellow of minds. One author considers that "one of the most effective uses of electricity is the relief, and at times the cure, of all degrees of descension of the uterus, except possible complete procidentia." "It is probable," he asserts, "that every puerperal woman would be the better for a course of nongalvanic rhythmic currents after cessation of the lochia." He advises "cathode depigmentation" for the removal of freckles; electric ionization for the cure of salpingitis, and, in fact, finds some use for electricity in every possible physical or mental condition that afflicts the human body. Actually, he recommends the treatment of ectopic gestation by electrocution of the fetus before the fourth month, and the use of more moderate currents afterward to promote its absorption. He wisely suggests that in the meantime the patient should be at absolute rest in bed, with the constant attendance of a nurse.

And yet these statements of presumably scientific writers on electric therapy are mild indeed compared with the lucubrations of the commercial wielders of the pen who are inhibited by no scientific doubts whatever in their development of literature that will sell the goods. Speaking of the incandescent lamp, one of them says:

> When you use a thermotherapeutic light, you invoke nature's strongest force, the most permanent therapeutic power.

Another statement says of diathermy:

> No physician's office, no hospital or sanitarium is complete without some good physical therapy equipment—particularly a diathermy apparatus of the portable or semiportable type. Such a machine is a very decided requisite if modern methods of medicine and surgery are to be employed.

Just how much more requisite a "decided requisite" or a "very decided requisite" may be than something that is just "requisite" deponent sayeth not.

Another manufacturer presents to the medical profession a cabinet lined with mirrors and incandescent electric lights. This, be it understood, is the "inductive metabolizing method." Of this it is said:

> The —— Inductive Metabolizing method gives to the world one of the greatest, if not the greatest, means of rejuvenation of the human organism known to medicine, but the part that is most interesting about this modality is that of its synergetic action with all the recognized methods of rejuvenation now in use—such as gland therapy, radioactive drinking water, baths, etc., as the results obtained by their use, when accompanied by the Inductive Metabolizing treatments, are increased tenfold.

And finally, for it would be possible to multiply these examples interminably, hearken to this section on "Resuscitated Sunlight":

> We are all familiar with the marvelous vitalizing, beautifying and regenerating power of Sunlight. We have seen the earth, brown and sear in early Springtime, quicken to life and beauty; the tiny buds burst their prison cells, and develop into flower and fruitage; the fetid odors of putrescence disappear—and all, under this magic influence of the sun's rays.
>
> Yes, more; we have watched with keenest interest the red blood come into the veins, sparkle into the eye and vigor into the limb of the anemic and invalid, through the stimulating effects of the "Sun Bath." But somehow, we limit the Electric Light to its luminous qualities, forgetful that in it we have real "bottled sunshine" under our absolute control, ready for application when desired and with the widest range of adaptation.
>
> As the physicist has learned, the Electric Light is identical with Sunlight; in fact, it is Sunlight resuscitated from the energy long stored in the lumps of coal used as fuel. This latent energy in the coal, liberated in the furnace and transformed in the dynamo, is flashed forth again in radiance from the electric arc, or incandescent filament, or its interrupted mission of service to the world. In other words, that subtle, force—that potent silent process that tints the petals of the lilac and the lily, that scents the rose and the jasmine, that flavors the ripening fruit in the orchard—is one and the same of Nature's forces, whether at work in the flower garden, on the sands of the seashore, or in the Light Baths.

It is presumed that the gentleman who wrote this statement is now more gainfully employed selling lots in Florida.

PERIODICAL LITERATURE ON ELECTROTHERAPEUTICS

If the physician turns to the periodical literature on the subject—for it is this literature that should mark the progress of the science week by week and month by month—he finds a strange paucity of articles available for his information. Frankly, the official periodical of the American Electrotherapeutic Association has only recently begun to resemble in both advertising and editorial content what a scientific periodical ought to be. Apparently, in previous years it was the custom to print all the articles read at the regular meetings; editors were not permitted to, or did not, exercise critical judgment, and the reader was left to his own devices in distinguishing between that which represented uncritical hypothesis and that which represented established fact. Today the official periodical is the one journal devoted exclusively to this field that is regularly indexed and abstracted in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. The inclusion, which is recent, may be taken as recognition of the successful attempt of your officers and editors to put the periodical on a scientific basis.

THE JOURNAL has thus far published but few articles on electric therapeutics, not, however, because of any lack of articles submitted. Consider, for example, the protest of a medical electrotherapist whose paper was returned on the grounds that his claims were exuberant:

> I have treated some 32,000 times with ultraviolet equipment. I have every good book on ultraviolet and physical therapy that I know about. I keep up on the current literature. I have had ultraviolet in my home for five years. I study and typewrite naked under ultraviolet at home, often five nights a week, often three hours at a time. I have taken thousands of hours of ultraviolet on my own body. I believe that I have cured myself of pulmonary tuberculosis and parasynusitis with ultraviolet.

Among the statements made in the paper that was returned was the claim that persons living in California and in Florida were finer specimens of manhood than could be found anywhere else in the United States, because of the large amount of ultraviolet light which they secured. In support of this statement was the following:

> I have studied draft-board reports. It does show that the best specimens of American manhood comes from the West; that some Western states filled the first three drafts with

volunteers and that no eastern state filled any with volunteers I believe President Wilson stopped volunteering so that the West would not show the East up.

Who of us fails to greet such statements with well merited scorn and laughter? But how many assertions have been made in papers presented before the scientific sessions of this organization that are grounded in statistical proof and *a priori* reasoning no better than that here offered for derision.

MUSHROOM SCHOOLS AND UNQUALIFIED PRACTITIONERS

The physician who is anxious to perfect himself in the fundamentals of physical therapy, or even in the practical use of the apparatus, is confronted by a troublesome situation. As has been intimated, the schools of medicine and the postgraduate schools offer but few courses, and those not continuously. Moreover, mushroom schools have sprung up here and there to offer such courses to any aspirant, be he chiropractor, osteopath, cosmetician, chiropodist, barber, farmhand or blacksmith. Who has defined the point at which the work of the physical therapy aide or technician ends or commences? The ignorant cultist, licensed by a too-complaisant state to practice some single system of diagnosis and treatment, finds his patients seldom inclined to inquire whether or not his fundamental training warrants the use of the potent electrical devices with which he may have equipped himself. Indeed, most often this course of study has embraced some hours with the detail man or demonstrator and a cursory study of the book of directions, if he happens to be able to read. Even the "Naturopath" equips himself with artificial sunlight against the day when the clouds obscure the sky, although information has not yet been received that he has secured artificial grass and bottled dew for his nightgown-clad hypochondriacs to walk in while the artificial sun may shine.

The medical practice acts of our individual states make strange allowances for all sorts of unusual encroachments on the practice of medicine. Legislators seem not yet to have realized that the ability to diagnose disease according to the facts of modern scientific medicine is, and legally should be, an absolute prerequisite to any sort of treatment. The nurse, the technician, the aide, or whatever high-sounding title may be conferred on a medical assistant, gains confidence with time and soon wishes to depart from the sheltering wing of the physician whom she may assist, to establish herself in her self-constituted profession of physical therapist. In several states the new laws regulating the practice of cosmetology specifically exempt the other new profession of electrology so far as concerns the removal of superfluous hair, moles, warts or excrescences from the skin. There is need for some body, with all the power and authority of organized medicine in its support, to set forth above everything else the dangers of the ignorant employment of electrical devices.

THE WORK OF THE COUNCIL

The Council on Physical Therapy, as has been intimated, is confronted by problems not nearly so difficult as those which confronted the Council on Pharmacy and Chemistry in many of their phases. After all, the possible devices to be studied are developed slowly and are limited by definite physical and structural limitations. Moreover, the new council has in the old an example as to procedure, which will permit the avoidance of the fumbling, experimental steps, the trial and error methods, that were necessary in the development of the Council on Pharmacy and Chemistry. The plans which the Council outlined in its preliminary meeting included the publication of a series of articles defining the present status of actual knowledge in this field. These articles are to be prepared through cooperation between the members of the Council, the editorial staff of THE JOURNAL, and all the experts in the field of physical therapy on whom the Council hopes it may call with success for contributions. Effort will be made to edit and prepare this material in such form that the finally published statements will present that which is established by undoubted scientific evidence.

Those who are proficient in the physical side of electric therapy realize that it is relatively simple to determine whether or not electrotherapeutic apparatus is constructed according to the specifications set forth by its manufacturers, as to whether or not the various devices will deliver the amounts and the kinds of current claimed for them in the literature. The great difficulty will inevitably arise in the interpretation of the clinical evidence. To this interpretation the Council will apply itself particularly, endeavoring, in the absence of properly controlled observations, to see that they are made in well conducted departments of physical therapy in established schools and hospitals. And physicians may be assured that the filtrate of truth, passing through this filter of scientific judgment, will be a clear and sparkling fluid, free from noxious matter and visible dirt, almost as potent perhaps as the claims made for waters in jars containing radium ore or as that in swimming pools treated with the ultraviolet ray. What a contrast that would be to the muddy waters of doubtful knowledge in which the practicing physician swims today!

THE TECHNIC OF MEDICATION

A SERIES OF ARTICLES ON THE METHODS OF PRESCRIBING AND PREPARING, THE INDICATIONS FOR, AND THE USES OF VARIOUS MEDICAMENTS *

BERNARD FANTUS, M.D.
Associate Clinical Professor of Medicine, Rush Medical College
CHICAGO

(Continued from page 199)

4. *Antiseptic Lotions.*—In the presence of infection, the fluid employed to keep the dressing moist might, with advantage, be an antiseptic lotion. Among these one should distinguish between disinfectant and bacteriostatic applications.

Examples of disinfectant lotions are the solutions employed by the surgeon for disinfection of the skin, such as mercuric chloride, 1:1,000, or 5 per cent phenol. A good example of a disinfectant lotion employed to prevent dissemination of infection in the treatment of acne or of furunculosis is one containing mercuric chloride, 1:1,000, in alcohol, to which 25 per cent of ether may be added for the purpose of removing fat, thus making the lotion detergent and more penetrating. It may be noted, in passing, that one must not employ sulphur internally or externally in conjunction or alternation with such a lotion, as otherwise the pores of the skin will become filled with black dots of mercuric sulphide. Such a lotion must not be applied to a raw

* This is the fourth of a series of articles on "The Technic of Medication." When completed the articles will be assembled in book form.

or excoriated surface, on which it would be decidedly irritating and from which poisoning might occur if the application was at all extensive.

The now official surgical solution of chlorinated soda (modified Dakin's solution), which was developed during the war for the dressing of infected wounds, is a truly disinfectant solution. Whether or not it can accomplish the miracle, as Almroth Wright termed it, of "disinfection of an infected wound" depends, in the first place, on a definition, and secondly on the time and manner in which the solution is used. No one can doubt that, as long as micro-organisms are on the surface of a wound and before they have invaded the tissue, this solution can destroy the contaminating organisms: in other words, we can disinfect a contaminated wound, provided we convert it into a surface and permit the solution sufficiently thorough and prolonged contact. There can also be no doubt that, when organisms have invaded the tissue—and true infection implies successful invasion—no disinfectant can reach them without also killing the tissue. Chlorine is the ideal disinfectant for contaminated wounds, because it is not as poisonous as any other equally powerful disinfectant; for the end-result of the reaction is the harmless chloride ion. To accomplish this much, a most exacting technic is required. The solution must not contain more than 0.48 per cent of available chlorine, or else it is too irritative, and not less than 0.45 per cent, or else it is quite useless. Even though the solution is of the proper strength, it soon loses it when in contact with the tissue; hence, frequent renewal—once every two hours—is necessary. The skin does not tolerate this solution, even though its strength is within the proper limits, for any length of time without irritation. Hence, the skin surrounding the wound must be protected by petrolatum. The irritant action of the solution may, however, be of value in improving the reaction of the tissues against bacterial invasion.

The best example of a bacteriostatic lotion is a saturated solution of boric acid. It has the advantage of being practically harmless to the tissues and is still capable of inhibiting the proliferation of bacteria. This keeps dressings saturated with boric acid solution from becoming offensive and the discharge absorbed by such dressings from serving as a culture medium for pathogenic micro-organisms. In the treatment of infection of or near the surface, hot boric acid dressings are deservedly in extensive use. The heat is relied on to produce hyperemia with its reparative, antibacterial, resorptive and analgesic actions. The more desirable it is to stimulate reaction, the more necessary is it to have and keep the compresses hot. This is accomplished by moistening the gauze with boiling solution, which is wrung out thoroughly before applying the compress to the part. The wringing is usually done by placing the dry sterile gauze in a sterile towel, which is immersed in the boiling solution, leaving the two ends of the towel dry, and wringing out the excess moisture by means of the dry ends of the towel. When the wringing is well done, one cannot get the dressing too hot. The patient may complain about its feeling too hot; but it will do no harm, provided a moist rather than a wet compress has been applied. Another reason why the compress should be moist rather than wet is that such application absorbs better—better even than a dry dressing—just as a sponge that has been moistened and squeezed out absorbs better than a dry sponge. To keep the dressing hot, heat loss is antagonized in all possible ways. The dressing is first covered with waterproof material, such as paraffin paper, to antagonize heat loss by evaporation. This is then covered with a thick layer of cotton or other poor heat conductor; and the whole is kept in place with a convenient bandage. Obviously, each succeeding layer of the hot boric dressing is made larger than the one below it. Even when applied with all these precautions, the dressing does not remain hot for more than an hour or two, when it should be replaced by a fresh one. The hot boric dressing frequently acts like magic in putting a stop to spreading inflammation, provided it is applied to take in a large area of healthy tissue surrounding the lesion. The latter is thus excited to exert a vigorous and frequently successful resistance against the invading micro-organisms. Once the lesion has become well circumscribed, the battle is won, and the compresses need not be changed so frequently; but, when the compresses are applied to a discharging surface, they must be changed often enough to keep them moist. If they are permitted to dry, they fail in their absorptive function and become adherent to the surface, with all the previously described disadvantages of "sticking" dressings.

5. *Irritative or Stimulating Lotions.*—It is a fundamental therapeutic principle to employ soothing treatment in acute inflammation and stimulating (irritative) treatment in chronic inflammation, the degree of irritative action being in proportion to the chronicity and indolence of the inflammatory process. In the application of this principle in dermatology, preference is generally shown for reducing bodies which are believed to be keratoplastic—to have a greater tendency to stimulate proliferation of epidermal cells than most other irritants. This is why agents such as sulphur, tar and its derivatives, chrysarobin and trinitrophenol, are generally preferred to a host of other possible irritants and antiseptics.

For a case of chronic dermatitis, therefore, we might prescribe coal tar solution (N. F.), which contains 20 per cent of coal tar and the soluble principles of quillaja (10 per cent) in alcohol. This solution is diluted with from 10 to 50 parts of water, for use on the skin, though in very indolent conditions the undiluted solution and even anthracite coal tar itself may be employed as a pigment.

6. *Astringent Lotions.*—These are particularly useful in exudative (weeping) dermatoses. They differ among themselves in degree of irritative action. In acute inflammations, the diluted solution of lead subacetate, often miscalled lead water, used as a lotion or applied on gauze as a compress, is frequently beneficial, especially in poison ivy dermatitis. Another useful astringent lotion is a solution of aluminum acetate (N. F., Burow's solution), provided it is properly diluted with water. This solution, containing about 5 per cent of aluminum acetate, requires dilution with from 5 to 10 parts of water in order to be tolerated by the inflamed skin. Application in excessive strength to very sensitive tissue might increase the inflammation and even cause necrosis.

An example of an astringent and stimulating lotion for the treatment of acne is one composed of 3 per cent each of zinc sulphate, sulphurated potassa and precipitated sulphur in water. It is generally applied over night, and, of course, is not to be used in conjunction with a mercurial lotion.

7. *Deodorant Lotions.* — Potassium permanganate, deservedly a popular deodorant, is employed in

strengths of from 0.1 to 1 per cent in the form of baths or as irrigation for cavities, such as those of ulcerating carcinoma. The patient may be furnished with the crystals, a few of which he may dissolve in water to use as a foot bath in such a condition as bromhidrosis. When more accurate adjustment of the strength of the solution is required, a concentrated solution (5 per cent, the solubility of a given quantity of potassium permanganate being 1 in 13.5 parts of water) may be prescribed to be diluted before use; or else tablets of known strength (as 0.03 Gm. each) may be employed for solution in a specified amount of water. Permanganate stains may be removed by means of vinegar or of lemon juice.

8. *Alkaline Lotions.*—These are useful in the treatment of the itching of urticaria. Relief can often be obtained from a solution of sodium bicarbonate (from 1 to 5 per cent) or of sodium carbonate (from 0.5 to 3 per cent) or of borax (from 1 to 4 per cent) applied quite hot, and followed—without drying—by dusting with talcum.

9. *Antipruritic Lotions.*—When the itching skin is not inflamed, some of the irritative antipruritics may be employed, such as phenol (1 per cent) in water, or menthol (1 per cent) in alcohol, or both. However, phenol solution must never be applied under occlusive (waterproof) dressing, as this would invite the appearance of gangrene.

10. *Detergent Lotions.*—Ether and gasoline are energetic detergents; and, when their irritative action is not objectionable, are preferable to soap; most especially for the removal of nonsaponifiable oils from the skin, such as the petroleum products, now so generally used as lubricants. The cleansing action of soaps is due to their alkalinity and to their forming of a colloidal solution that, by emulsifying fat, removes the dirt, which is a compound of the fat of the epidermis, and "matter in the wrong place." From soaps we can obtain not only a cleansing (detergent) effect but also various degrees of irritation, so that they are contraindicated in acute skin disease. For skins deficient in natural fat, "superfatted" soaps have been put on the market, but these are poor cleansers. Cold cream or an emollient lotion will cleanse quite as well as such soaps, and are usually preferred.

Medication of soaps is, on the whole, a farce. Tar soap is merely soap perfumed with tar. Disinfectant soaps are no better than if nothing had been added to the soap (Norton). However, soap is by itself a potent disinfectant, green soap particularly. Indeed, liniment of soft soap (U. S. P.), also known as tincture of green soap, has been advocated as a venereal prophylactic (Reasoner). This liniment is also one of the best things for sycosis; it is used with water to remove the crusts and is followed by a soothing salve. Pumice soaps (sand soaps) are also useful for removing crusts in chronic skin disease. After using them, one should rinse well, and then apply a soothing ointment.

That crusts should be removed prior to application of remedial agents is merely a common sense principle of dermatology. The detergents named suffice for chronic cases. In acute cases, the best means for removing crusts without injury to the inflamed skin is a starch poultice; this is nothing more or less than laundry starch made into a rather thick paste and applied under covering for several hours or over night.

IV. LINIMENTS

Liniments (the term is derived from the Latin *linere*, to smear) are liquid preparations suitable for rubbing on the skin, and are intended chiefly for endermic action. To facilitate the rubbing, they are made to contain, as a lubricant, a fatty or a soapy body. They are sometimes called oliments, when containing oil or fat, and saponiments, when containing soap. They also generally contain a volatile or otherwise irritative ingredient, as the chief use of liniments is to produce hyperemia (rubefaction). The main difference between the various liniments lies in their various degrees of irritative action. There are, however, some liniments in which a specific effect on nerve endings is aimed at in addition, as in case of the A. B. C. liniment, an anodyne application popular in hospitals, which is composed of tincture of aconite, fluidextract of belladonna, and chloroform, 30 cc. of each, and sufficient soap liniment to make 240 cc.

Camphor liniment, also known as camphorated oil, containing 20 per cent of camphor in cottonseed oil, is so mild that it may be applied to the skin of babes; it constitutes a favorite domestic counterirritant application to the chest in the treatment of bronchitis in children.

Chloroform liniment, containing 30 per cent of chloroform in soap liniment, might serve as an example for the prescribing of extemporaneous liniments. The official soap liniment (sometimes referred to by its ancient name of opodeldoc), containing in addition to 6 per cent of soap approximately 5 per cent of camphor and 1 per cent of oil of rosemary, in 40 per cent alcohol, may be looked on as a basic liniment from which the extemporaneous preparation of liniments may be directed by the addition of medicated ingredients, such as methyl salicylate. Soap liniment may be medicated by adding to it volatile oils in proportions up to 25 per cent, with the exception of the volatile oil of mustard, which is so powerful an irritant that 3 per cent may be considered a maximum. This is the strength of the compound liniment of mustard (N. F.), which might serve as an example of one of the most powerfully irritative of liniments.

The bottle containing liniments should be plainly marked "For external use only," for many of them taken internally would be poisonous. For this reason it is desirable that they be dispensed in bottles that can be distinguished by the touch from those in which internal medicines are put. The patient should receive careful instruction in regard to the amount and character of rubbing (massage) desired. It may have to be very gentle or quite energetic, and it had better be planned according to the rules of scientific massage, though often planless rubbing is better than no rubbing at all. Indeed, sometimes the massage is more important than the liniment; and the advantage of ordering a liniment in such a case lies in the fact that certain patients are more readily induced to rub and knead a part faithfully with a liniment than they would with the hands alone. To prolong and increase the rubefacient effect, occlusive covering is sometimes applied. However, liniments containing strong volatile irritants, such as oil of mustard, should not be kept in contact with the skin for a long time under occlusive dressing, as painful blisters may result.

Scalp liniments, sometimes called scalp lotions or hair washes, are alcoholic or hydro-alcoholic, aqueous

or oily solutions intended for application to the hairy scalp. As they are generally rubbed in, they might properly be classified with liniments. The addition of a small amount of castor oil (1 or 2 per cent, not more) to an alcoholic scalp liniment is of advantage if the hair has a tendency to be dry. Castor oil, be it noted, is the only commonly used oil readily soluble in alcohol. Scalp applications are generally made antiparasitic, antiseptic or stimulant.

Thus, we might prescribe as a lotion for the treatment of dandruff an alcoholic solution of 2 per cent resorcinol with 1 per cent of castor oil.

A stimulant scalp lotion for the treatment of alopecia contains equal parts of tincture of cantharides, tincture of capsicum and the compound spirit of myrcia, N. F. (bay rum).

When commonly known and easily mixed substances suffice, no formal prescription need be written, and the patient may be permitted to prepare the application himself. In warfare against lice, a mixture of equal parts of kesosene and cottonseed oil is rubbed into the hair and scalp at bedtime; it may be kept from soiling the bed linen by a head covering, most conveniently a rubber bathing cap. It is washed off with soap in the morning. The procedure may be repeated the following night. Strong vinegar and the use of a fine tooth comb are required to eradicate the nits that resist the kerosene application.

(To be continued)

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

POLLEN EXTRACTS-ARLCO (See New and Nonofficial Remedies, 1925, p. 288).

The following products have been accepted:

Acacia (Scap.) Pollen Extract-Arlco; Alfalfa Pollen Extract-Arlco; Ash Pollen Extract-Arlco; Box Elder Pollen Extract-Arlco; Burning Bush Pollen Extract-Arlco; California Walnut (Black) Pollen Extract-Arlco; Cocklebur Pollen Extract-Arlco; Cosmos Pollen Extract-Arlco; Fleabane (Common) Pollen Extract-Arlco; Goose Foot Pollen Extract-Arlco; Hemp Pollen Extract-Arlco; Indian Rice Pollen Extract-Arlco; Indian Wormwood Pollen Extract-Arlco; Live Oak Pollen Extract-Arlco; Marsh Elder Pollen Extract-Arlco; Meadow Fescue Pollen Extract-Arlco; Mugwort Pollen Extract-Arlco; Oat Grass Pollen Extract-Arlco; Olive Pollen Extract-Arlco; Pine Pollen Extract-Arlco; Plantain Pollen Extract-Arlco; Prairie Sage Pollen Extract-Arlco; Poplar Pollen Extract-Arlco; Privet Pollen Extract-Arlco; Red Fescue Pollen Extract-Arlco; Rye Grass Pollen Extract-Arlco; Slender Ragweed Pollen Extract-Arlco; Sweet Clover Pollen Extract-Arlco; Sweet Vernal Grass Pollen Extract-Arlco; Sycamore Pollen Extract-Arlco; Thistle Pollen Extract-Arlco; Velvet Grass Pollen Extract-Arlco; Western Cottonwood Pollen Extract-Arlco; Western Ragweed (Giant) Pollen Extract-Arlco; Winter Fat Pollen Extract-Arlco; Yellow Daisy Pollen Extract-Arlco.

Prepared by the method given for Pollen Extracts-Arlco (New and Nonofficial Remedies, 1925, p. 288).

POLLEN EXTRACTS-CUTTER.—Liquids obtained by extracting the dried pollen of plants with a liquid consisting of 67 per cent of glycerin and 33 per cent of a buffered saline solution.

Actions and Uses.—See Allergic Protein Preparations, New and Nonofficial Remedies, 1925, p. 278.

Dosage.—See Allergic Protein Preparations, New and Nonofficial Remedies, 1925, p. 278.

Pollen extracts-Cutter are marketed in capillary tubes for diagnostic tests; in complete treatment set packages consisting of five vials representing graduated concentrations; namely, 1 in 40,000, 1 in 10,000, 1 in 1,000, 1 in 500 and 1 in 500, respectively, accompanied by a sufficient amount of physiological solution of sodium chloride for diluting the extract; in special packages (No. 1) consisting of two vials representing graduated concentrations; namely, 1 in 40,000, and 1 in 10,000, accompanied by a sufficient amount of physiological solution of sodium chloride for diluting the extract; in special packages (No. 2) consisting of two vials representing graduated concentrations; namely, 1 in 1,000 and 1 in 500, accompanied by a sufficient amount of physiological solution of sodium chloride for diluting the extract.

Manufactured by the Cutter Laboratory, Berkeley, Calif. No U. S. patent or trademark.

Annual Salt Bush Pollen Extract-Cutter; Arizona Ash Pollen Extract-Cutter; Bermuda Grass Pollen Extract-Cutter; Black Walnut Pollen Extract-Cutter; Canary Grass Pollen Extract-Cutter; Careless Weed Pollen Extract-Cutter; Coast Sagebrush Pollen Extract-Cutter; Cocklebur Pollen Extract-Cutter; Common Ragweed Pollen Extract-Cutter; Cottonwood Pollen Extract-Cutter; False Ragweed Pollen Extract-Cutter; Giant Ragweed Pollen Extract-Cutter; Johnson Grass Pollen Extract-Cutter; June Grass Pollen Extract-Cutter; Lamb's Quarters Pollen Extract-Cutter; Live Oak Pollen Extract-Cutter; Marsh Elder Pollen Extract-Cutter; Mugwort Pollen Extract-Cutter; Olive Pollen Extract-Cutter; Orchard Grass Pollen Extract-Cutter; Plantain Pollen Extract-Cutter; Rabbit Bush Pollen Extract-Cutter; Red Root Pigweed Pollen Extract-Cutter; Red Top Pollen Extract-Cutter; Russian Thistle Pollen Extract-Cutter; Rye Grass Pollen Extract-Cutter; Sagebrush Pollen Extract-Cutter; Shadscale Pollen Exract-Cutter; Sheep Sorrel Pollen Extract-Cutter; Timothy Pollen Extract-Cutter; Velvet Grass Pollen Extract-Cutter; Western Ragweed Pollen Extract-Cutter; White Oak Pollen Extract-Cutter; Wild Oat Pollen Extract-Cutter; Yellow Dock Pollen Extract-Cutter.

Pollen extracts-Cutter are prepared by extracting the dried pollen with a menstruum composed of 67 per cent of glycerin and 33 per cent of an aqueous solution containing potassium dihydrogen phosphate (KH_2PO_4), 0.0908 per cent, sodium phosphate ($Na_2HPO_4 . 12\ H_2O$), 0.238 per cent, and sodium chloride, 0.85 per cent. The extract is clarified by Berkefeld filtration. The finished liquid is a 1 per cent extract of the dried pollen, each cc. representing 0.01 Gm. of dried pollen.

CONCENTRATED POLLEN EXTRACTS-SWAN-MYERS (See THE JOURNAL, May 30, 1925, p. 1634).

The following product has been accepted:

Mixed Ragweed Concentrated Pollen Extract-Swan-Myers.

Prepared by the method given in THE JOURNAL, May 30, 1925, p. 1634, from a mixture composed of equal parts of the dried pollen of giant ragweed (*Ambrosia trifida*) and short ragweed (*Ambrosia elatior*).

GROUP PROTEIN EXTRACTS DIAGNOSTIC-P. D. & CO. (See New and Nonofficial Remedies, 1925, p. 294).

The following products have been accepted:

Protein Extracts Diagnostic-P. D. & Co. Graminese Group 28 (Bermuda Grass, Johnson Grass, Orchard Grass, Red Top, Timothy); Protein Extracts Diagnostic-P. D. & Co. Chenopodiaceae Group 29 (Halberd-Leaved Orache, Russian Thistle, Western Water Hemp, White Goose Foot, Yellow Dock); Protein Extracts Diagnostic-P. D. & Co. Ambrosiaceae Group 30 (Burweed Marsh Elder, Cocklebur, Common Ragweed, Giant Ragweed, Rough Marsh Elder, Western Ragweed); Protein Extracts Diagnostic-P. D. & Co. Artemisia Group 31 (Indian Hair Tonic, Mugwort, Prairie Sage, Sage Brush, Wormwood Sage).

PROTEIN EXTRACTS DIAGNOSTIC-P. D. & CO. (See New and Nonofficial Remedies, 1925, p. 289).

The following products have been accepted:

Aster Pollen Protein Extract Diagnostic-P. D. & Co.‡; Barnyard Grass Pollen Protein Extract Diagnostic-P. D. & Co.‡; Bermuda Grass Pollen Protein Extract Diagnostic-P. D. & Co.‡; Burweed Marsh Elder Pollen Protein Extract Diagnostic-P. D. & Co.‡; Chestnut Pollen Protein Extract Diagnostic-P. D. & Co.‡; Cocklebur Pollen Protein Extract Diagnostic-P. D. & Co.‡; Common Ragweed Pollen Protein Extract Diagnostic-P. D. & Co.‡; Corn Pollen Protein Extract Diagnostic-P. D. & Co.‡; Cosmos Pollen Protein Extract Diagnostic-P. D. & Co.‡; Crab Grass Pollen Protein Extract Diagnostic-P. D. & Co.‡; Dahlia Pollen Protein Extract Diagnostic-P. D. & Co.‡; Dandelion Pollen Protein Extract Diagnostic-P. D. & Co.‡; Halberd-Leaved Orache Pollen Protein Extract Diagnostic-P. D. & Co.‡; Giant Ragweed Pollen Protein Extract Diagnostic-P. D. & Co.‡; Indian Hair Tonic Pollen Protein Extract Diagnostic-P. D. & Co.‡; Johnson Grass Pollen Protein Extract Diagnostic-P. D. & Co.‡; June Grass Pollen Protein Extract Diagnostic-P. D. & Co.‡; Maple Pollen Protein Extract Diagnostic-P. D. & Co.‡; Marigold Pollen Protein Extract Diagnostic-P. D. & Co.‡; Orchard Grass Pollen Protein Extract Diagnostic-P. D. & Co.‡; Plantain Pollen Protein Extract Diagnostic-P. D. & Co.‡; Prairie Sage Pollen Protein Extract Diagnostic-P. D. & Co.‡; Rose Pollen Protein Extract Diagnostic-P. D. & Co.‡; Rough Marsh Elder Pollen Protein Extract Diagnostic-P. D. & Co.‡; Sage Brush Pollen Protein Extract Diagnostic-P. D. & Co.‡; Western Ragweed Pollen Protein Extract Diagnostic-P. D. & Co.‡; Western Waterhemp Pollen Protein Extract Diagnostic-P. D. & Co.‡; Wheat Pollen Protein Extract Diagnostic-P. D. & Co.‡; White Clover Pollen Protein Extract Diagnostic-P. D. & Co.‡; White Goose Foot Pollen Protein Extract Diagnostic-P. D. & Co.‡; Willow Pollen Protein Extract Diagnostic-P. D. & Co.‡; Wormwood Sage Pollen Protein Extract Diagnostic-P. D. & Co.‡; Yarrow Pollen Protein Extract Diagnostic-P. D. & Co.‡; Yellow Dock Pollen Protein Extract Diagnostic-P. D. & Co.‡

Prepared by the method given in New and Nonofficial Remedies, 1925, p. 289.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 NORTH DEARBORN STREET - - - CHICAGO, ILL.

Cable Address - - - - "Medic, Chicago"

Subscription price - - - - - - Five dollars per annum in advance

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent. Such notice should mention all journals received from this office. Important information regarding contributions will be found on second advertising page following reading matter.

SATURDAY, JANUARY 23, 1926

PERITONEAL ADHESIONS

Intraperitoneal adhesions are common; congenitally, they exist as part of the anatomic development of the abdominal structures, and later they occur frequently in pathologic conditions, with beneficial or detrimental effect, as the case may be. An abscess walled off or an intestinal obstruction produced is only a different manifestation of the same alert potentiality for growth inherent in connective tissue. The only positive protection against adhesions is the smooth, intact mesothelium of the serosa. Destroyed by inflammation, surgery, trauma or other cause, it leaves the cells of the underlying serosa and subserosa free to proceed in a typical wound-healing process to the formation of granulations and eventually of fibrous adhesions. In these are blood and lymph vessels, nerves, elastic fibers and possibly smooth muscle, the anatomic basis for the symptoms indicative of the condition. If only disturbed or irritated by pressure or inflammation, these mesothelial cells can evidently dedifferentiate into active fibroblastic cells and join in the formation of new tissue. These are some of the points emphasized by Wereschinski[1] in his book describing his work on histopathology and tissue cultures, and including a thorough review of the literature on peritoneal adhesions.

Peritoneal exudate may glue the surfaces together, but the free cells in the exudate seem to take little or no part in the growth of new tissue. By the second day after injury, the fibroblasts of the subserosa are multiplying and migrating to the surface of the peritoneum, with their long axes at right angles to it.[2] Leukocytes, lymphocytes, polyblasts and plasma cells are present in large numbers. The healing progresses to the organization of the fibrin, the phagocytosis of the degenerated cells and the decrease of the leukocytes, while the fibroblasts and polyblasts (resting wandering cells) persist. This histologic review recalls other studies of these cells as part of the reticulo-endothelial system. According to Sabin,[3] the primitive endothelial cells give rise to the precursors of the red blood cells, and to the histiocytes (Aschoff), which intravascularly are recognized as monocytes and extravascularly as clasmatocytes. The differentiated clasmatocytes, fibroblasts, endothelial cells and reticular cells have distinct functions but, under varying conditions, lose their identities, and each is apparently capable of producing any of the other forms. This lability of form and related function is a striking feature of practically all cells of mesenchymal origin.

The potentialities of the disturbed or uncovered serosal and subserosal tissue are therefore of genetic interest, and also of direct practical interest to the surgeon to whom intraperitoneal adhesions as a serious postoperative complication are of especial concern. Certain general principles have been set down, particularly the preservation of the mesothelial covering itself, or of the conditions that will either allow the recovery of these cells or tend to produce regeneration of the destroyed mesothelium. Unfortunately, neither Wereschinski nor any other worker has discovered the specific means of assuring such results. Wereschinski also calls attention to the presence of smooth muscle in the adhesions of the intestine, and makes the suggestion that, in many cases at least, not an enteroanastomosis but a resection of the contracted mesentery may restore the function of the intestine without incurring the danger of further involvement of more tissue in the proliferative reaction.

1. Wereschinski, A.: Beiträge zur Morphologie und Histogenese der intraperitonealen Verwachsungen, Leipzig, 1925.
2. Maximow, quoted by Wereschinski.
3. Sabin, F. R.: Studies on Blood: The Vitally Stained Granules as a Specific for Erythroblasts and the Differentiation of the Three Strains of the White Blood Cells as Seen in the Living Chick's Yolk Sac, Bull. Johns Hopkins Hosp. 32: 314 (Oct.) 1921.

THE TREND OF VETERANS' RELIEF LEGISLATION: STATE MEDICINE

Through paragraph 10 of section 202 of the World War Veterans' Act, 1924, the federal government planted the germs of state medicine in our body politic and entered directly into competition with the private practitioners and private hospitals of the country. Under the provisions of that paragraph, the government now treats at public expense diseases and injuries having no relation to any government service, military or otherwise. Veterans of the Spanish-American War, of the Philippine insurrection, of the Boxer rebellion and of the World War, suffering from neuropsychiatric or tuberculous ailments or diseases, or from paralysis agitans, epidemic encephalitis or amebic dysentery, or from the loss of sight of both eyes, are entitled as a matter of right to treatment and care in hospitals under the Veterans' Bureau, at government expense, whether their ailments or diseases are or are not of military origin. Veterans of any war, military occupation or military expedition since 1897 are

entitled to that treatment and care whenever the director of the Veterans' Bureau finds facilities available, no matter what may be the nature of their disabilities, and no matter what may be their origin. The government pays traveling expenses incident to such treatment. Whether an applicant for treatment is rich or poor, is able to pay for treatment or belongs to the dependent classes, makes no difference, except that, in admitting patients of the latter class, preference is given to those financially unable to pay. The only condition the applicant must comply with is to prove illness or injury, to abandon his home physician and the hospitals of his own place of residence, and to enter a government institution, for treatment by physicians paid by the government.

The act providing these gratuities passed on June 7, 1924. During the fiscal year immediately following, July 1, 1924, to June 30, 1925, 13,243 persons claimed under it, without regard to the nature and origin of their disabilities, the privileges of government hospitals. They represented 17 per cent of the total number of patients admitted, 76,812. The duration of the stay of these 13,243 patients in the hospitals can be inferred from the fact that the average stay per patient of all patients discharged from Veterans' Bureau hospitals during the year was 93.7 days. The average in-patient operating expense for each patient daily during the year, so far as available figures permit it to be computed, was $3.98. If, then, the 13,243 patients treated for disabilities regardless of the origin of such disabilities be regarded as average patients, who stay an average time, 93.7 days, at an average cost, $3.98 a day, the expense to the taxpayers of the country of these patients while in hospitals was $4,938,659.02. This was exclusive of interest and depreciation on the extensive and costly hospital plant that must be maintained to render such service available; exclusive of traveling expenses of the patient hospitalized, which the government paid; and exclusive of the overhead expenses incident to the work of the Veterans' Bureau in administering and supervising these hospitals. And these figures represent only the first year's work of the bureau. As veterans become more familiar with the privileges granted, and as they become older and more subject to disability and disease, they may be expected to resort to government hospitals in increasing numbers, with increasing frequency, and at increasing expense to the government.

The gratuities already authorized will not mark the end of the bounties bestowed by an open-handed government at the expense of the taxpayers, if the proponents of such legislation have their way. Bills are now pending in Congress to extend to every beneficiary under section 10 of the World War Veterans' Act, 1924, outpatient treatment, in addition to the hospital treatment already authorized, and to grant the privilege of hospitalization and of outpatient treatment to Spanish-American War nurses, contract surgeons and contract dentists. Another bill proposes to extend a like privilege of hospitalization to all disabled ex-service men in the war between the states, including Confederate veterans. Another bill may be construed as entitling all civilian employees who served overseas during the World War to hospitalization at any time during the remainder of their natural lives, for any disease or disability. Other bills propose to give every disabled ex-service man, including Confederate veterans, the degree of disability not being stated and regardless of the origin of such disability, not only hospital care, but medical treatment, nursing, and all necessary care. And there are other bills yet to come.

As the disabilities for which benefits are given or proposed need have no relation to military or any other government service, or to the World War or to any other war, but may originate at any time in the future, out of any cause, government bounty need not be restricted apparently either to persons who served in the military service or even to civilian employees who served overseas. Persons who served overseas with the American Red Cross, the Salvation Army, the Y. M. C. A., the Knights of Columbus, and other auxiliaries would seem to have an equal claim to such benefits. And civilian employees who did not and could not serve overseas, members of draft boards, government employees generally, persons employed in ship yards, munition factories and other essential industries seem to be equally entitled to consideration. Their services were in many cases more valuable to the country at home than they would have been abroad, and many remained at home because of conditions over which they had no control, possibly because the government desired them to do so. And lest some legislator use this paragraph against us, be it said at once that its intent is sarcastic.

The theory underlying the existing and the proposed legislation providing hospital and outpatient care for veterans and certain other classes for disabilities not of service origin is not apparent. Heretofore, it has always been presumed that a person needing medical or surgical treatment should provide it for himself. If he cannot provide such treatment, it has been presumed to be the duty of the state to do so. Only when disease or injury has been incurred in the federal service has it been believed that the federal government should provide relief. Existing and proposed legislation, however, provides for the treatment of injuries and diseases that have not been incurred in the federal service. Such legislation must be based on some hitherto undiscovered principle of federal liability or create a new concept of it.

Possibly, this gratuitous federal treatment may have been conceived as a reward for military service. But a reward supposedly bears some relation to the

nature and extent of the service rewarded, and this government bounty does not. Commissioned officers of all ranks and enlisted men fare equally. Men who never came within a thousand miles of danger are rewarded on the same basis as those who lost eyesight or limbs in No Man's Land. The struggling family of the man who gave up his life in the trenches is left to provide medical relief as best it can, for his widow and children get no hospital or medical care from this legislation. If this bounty is a reward, it must be considered, then, not as a reward for service in line of duty, but as a reward for contracting disease or incurring injury outside the service, and for abandoning home and home ties and becoming a dependent of the government and an inmate of a government institution; for these are the circumstances on which the reward is based and to which it is proportioned.

What the effect of the enactment of legislation of this character will be on the future of the medical profession is problematic. It seems likely, however, that by tending to withdraw patients from the care of private practitioners, and to place them under the care of salaried officers of the government, the practice of medicine will be made less attractive. The rewards of government service are not now generally such as to attract the type of men who seek to become physicians, or to hold them after they have once entered the service. This is illustrated at present in the experience of the Veterans' Bureau, which, in order to retain the many desirable physicians who have entered its service and to attract others, has found it necessary to seek legislation organizing the medical corps of the bureau into a "commissioned" body, so as to give it greater dignity, more secure tenure of office, and reasonable prospects of promotions and of retirement.

But apart from the general effect of such legislation on the profession is its tendency to withdraw patients from small cities and towns, and from country districts, to the larger cities, where the government hospitals are located. The opportunities for livelihood for physicians in the smaller cities and towns and in country districts will thus be diminished, and the inadequacy of medical service for those who must reside in such places and who are not entitled to free government treatment, or who cannot leave their homes to obtain it, will become more serious than ever.

Recognizing the danger in the situation, the House of Delegates, at the Atlantic City session, May 25-29, 1925, adopted the following resolution:

Resolved, That the American Medical Association, through its accredited representatives and with the assistance of the accredited representatives of constituent organizations, whose cooperation is solicited, put forth every honorable effort to secure an amendment to the Veterans' Act of 1924, which will do away with federal free medical and surgical services and care for all veterans except those whose disabilities have been caused by war service for our country, or at least restrict free medical and surgical services and care to those veterans who are unable to pay for the same.

In accordance with this resolution, the constituent associations of the American Medical Association and the medical profession generally may be expected to protest against the bills now pending, and to ask a repeal of the legislation already enacted tending to federalize the practice of medicine and to nurture the germs of a system of state medicine.

THE SAFE AND SANE FOURTH OF JULY

In these days when the quest for health includes all sorts of efforts to prevent disease and prolong life, there is something almost criminal in the reckless abandon with which certain agencies are permitted to continue their menace of life and limb. Asserting that the care of individual and family health is the first and most patriotic duty of a citizen, Chief Justice Taft has urged a more vigorous attack on the factors that may impair the efficiency of the race. While it is true, he remarks, that to the public mind there is a more lurid and spectacular menace in such diseases as smallpox, yellow fever and plague, medical men and public health workers are beginning to realize that, with the warfare against such maladies well organized, it is now time to give attention to the heavy loss from lowered physical efficiency and chronic, preventable disease—a loss exceeding in magnitude that sustained from the more widely feared communicable diseases. But there is an added menace in all forms of carelessness that lead to preventable accidents. A recent writer, recalling the horrors of military struggle that have revealed the losses we sustain from warfare, reminds us that there is a daily battle going on with the forces and agencies that menace us in our environment.

We make much, and quite properly so, of the preventability of accidents. Museums of safety have been established to demonstrate this. It was reported by Ditman[1] several years ago that of 29,000,000 workers in the United States more than 500,000 are killed or crippled yearly as a direct result of the occupations in which they are engaged—more than were slain and wounded throughout the whole Russo-Japanese war. More than half of this tremendous sacrifice of life is needless. The perils that certain trades have for workmen have become the subject of regulatory legislation. The industries are continually being warned, reformed or compelled by legal enactment to make life and limb safer for their employees.

Yet there are other completely avertible perils that are faced unnecessarily and foolishly to an extent that reflects on our national intelligence. They do not lie in the path of duty. They are not incident to the demands of human welfare or progress. Among them is the Fourth of July menace, in which the innocent

1. Ditman, N. E.: Education and Its Economic Value in the Field of Preventive Medicine, Columbia University Quarterly, Supplement to June, 1908, p. 38.

are all too often made to suffer with or instead of the guilty. A few years ago it seemed as if sanity were about to be the keynote of the celebration of Independence Day. Largely through the efforts of THE JOURNAL, the character of the dangers of earlier recklessness was widely emphasized. Much has been accomplished since in the way of reform. How great the need of added restriction is follows from the statistics of the past year. The Surgeon General of the United States Public Health Service has pointed out that in thirty-six states 111 persons were killed and 1,030 injured as the result of celebrating with fireworks last July 4. Of the injured, 148 probably will lose the sight of one or both eyes. In many cases, Dr. Cumming says, injury or death was due to fireworks considered harmless, such as sparklers, blank cartridges, cap pistols, skyrockets, small firecrackers and roman candles. Hence Surgeon General Cumming recommends in his annual report a renewal of the campaign against the use of fireworks on Independence Day. No one knows better than the physicians of this country how large a measure of wisdom this represents. It is not too early to sound the note of warning; and it needs to be repeated often and loudly.

Current Comment

FEMININE IRRITABILITY

Half a century has elapsed since the studies of Erb and Westphal first emphasized the presumable diagnostic importance of the knee kick in relation to many diseases of the spinal cord. The light blow on the patellar ligament of a leg crossed over the knee is a familiar test to every practitioner. Strangely, the scientific interpretation of the phenomenon has not yet been completed to the satisfaction of critical investigators. Thus, it is still being debated whether the knee jerk is really a genuine reflex. The observation of the knee kick by the usual clinical procedure furnishes at best only crude information, so that minor quantitative variations in the responses are always of problematic significance. Physiologists have long recognized the fact that many factors, some of them of comparatively small magnitude, may affect the knee kick more or less markedly. Not only are there variations attributable to the strength of the stimulus used to elicit the muscular response,[1] but reinforcements may creep in from various sources. The results indicate that the irritability of the spinal cord varies widely as the result of incidental conditions. Lombard believes that the extent of the knee jerk is a sensitive indicator of the relative state of irritability of the nervous system. The response, he has found, is increased and diminished by whatever increases and diminishes the activity of the central nervous system as a whole. Accordingly, one must conclude from the studies of Williams[2] of the University of Illinois that women are perceptibly more irritable than men. On examining college students within the same age group under carefully controlled conditions, she found that the average height kicked in response to uniform stimuli was greater in women; furthermore, the knee jerk was absent much more frequently in men than in women. The findings may be worth bearing in mind in relation to the diagnostic uses of the reaction. One naturally hesitates to stress from any other standpoint the experimental conclusion that men are less irritable than women.

1. Tuttle, W. W.: Factors Influencing the Knee Jerk, Am. J. Physiol. 72: 50 (March) 1925.

THE NEXT EDUCATIONAL CONFERENCE

At the forthcoming conference on medical education,[3] the program of which was published last week, several problems will be presented which are of particular importance at this time. The speakers on the program include members or official representatives of ten or more national associations, councils, federations or other agencies which are wielding an increasingly effective influence in the fields of general and professional education. Judicious and permanent results should develop from the mutual sympathy, understanding and cooperation engendered by such conferences. The first day's program concerns the closer relationship that has been established between medical schools and universities, making for the permanence and efficiency of the medical school as a teaching institution. Special consideration will be given to certain technical and detailed requirements established by standardizing agencies or licensing boards which, although highly important and useful at the time they were enacted, may long since have served their purpose and probably require modification or repeal, as otherwise they may hinder the changes of the medical curriculum necessary to provide the modern physician with better training as a general practitioner. In the program of the second day, discussion is given to the possibility of saving two or more years of the student's time during his preliminary and medical courses. Other papers refer to the hospital internship, which now represents not only the rounding out process for the physician's general training but also a common basis for advanced work leading to higher efficiency either in the field of general practice or in some specialty. It will be shown wherein opportunities for such training are accessible in graduate medical schools, in postgraduate assemblies with their diagnostic clinics, or through university extension courses. An important point for consideration is how facilities for higher training can be made available for all practitioners of medicine. The program of the third day deals with the general problems of medical licensure as viewed by representatives of several organizations or commissions. An especially urgent need has developed for a better system of licensure whereby the public can rest assured that every one authorized to care for the sick will have demonstrated a reasonably high degree of medical training and skill. The program

2. Williams, Emily: A Comparison of the Irritability of Men and Women, Am. J. Physiol. 75: 52 (Dec.) 1925.

3. Annual Congress on Medical Education, Medical Licensure and Hospitals, Congress Hotel, Chicago, Feb. 15-18, 1926.

of the fourth day deals naturally with problems relating to the hospital. The benefits to the public from the hospital depend primarily on the high degree of professional knowledge and skill possessed by the personnel of its attending staff; on a carefully organized, efficient daily routine in the care of patients, and through frequent, but regular, conferences whereby methods in the diagnosis and treatment of diseases can be continually improved. The conference this year gives promise not only of a better understanding of present problems in medical education, but also of the recognition of others which may require future consideration.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

Fireproof Hospital Buildings.—According to an amended building ordinance which has been signed by the mayor of Los Angeles, the hospitals in that city must close or occupy fireproof buildings within the next eighteen months.

Annual Tax on Physicians.—The secretary of the state board of medical examiners desires to call the attention of physicians who are licensed to practice in California that the annual tax of $2 became due January 1, and that those failing to pay will be delinquent after sixty days.

Protest Osteopath's Appointment as County Physician.—Leading physicians of Oroville will appeal to the state board of health, it is reported, to annul the appointment, January 8, of an osteopath of Oroville by the name of Epperson as county physician of Butte County. The state law is said to require that county physicians have the degree of doctor of medicine.

Mrs. Hjalmar de Danneville Arrested.—The police of San Francisco recently arrested a woman, Mrs. Hjalmar de Danneville, on the charge of violating the state medical practice act. The woman, it seems, has been working the Abrams electronic fakery and at the same time posing as a man. Nearly three years ago, the board of supervisors of San Francisco amended the city ordinance which prohibited persons from appearing on the street in clothing of the opposite sex, so that Mrs. de Danneville could dress in men's clothing. In September, 1924, "Dr." de Danneville, as she called herself, protested to the editors of the San Francisco *Bulletin* against their attack on the Abrams' method and claimed that she could easily demonstrate the accuracy and utility of the ERA. De Danneville had been conducting classes in ERA technic, treating patients and making diagnoses from blood specimens sent in to her by other practitioners. The *Bulletin* asked Dr. Walter C. Alvarez of the University of California to aid them in putting de Danneville to the test. Dr. Alvarez took ten new glass slides, such as are used for blood work, and put a drop of blood on each of two of them. The blood was taken under the conditions said to be necessary by the disciples of Abrams. Each of the ten slides (eight of them blank) were then wrapped in new white paper and turned over to "Dr." de Danneville to identify. She was told at the outset that some of the slides were clean and others were spotted with blood. She was asked not to do any fancy work such as diagnosing nationality, religion or disease, but simply to determine which slides were clean and which were spotted. After performing the usual Abrams hocus pocus, de Danneville diagnosed the two spotted slides as clean and four of the clean slides as spotted!

DISTRICT OF COLUMBIA

"Bishop" Holler Sentenced.—A jail sentence of two years and a fine of $1,000 were imposed, January 9, on "Bishop" Helmuth P. Holler, president of "Oriental University," in the medical "diploma mill conspiracy case" in the District of Columbia. In passing sentence, Judge Stafford said: "If the court had the power, I should ask that the charter of 'Oriental University' be canceled and all diplomas issued to persons submitting affidavits or making false statements as to their qualifications be also canceled." In imposing the maximum sentence, the judge stated that he "could not conceive of any worse offense under statute of using the mails to defraud" than the one charged against Holler. If Holler were a rich man, Justice Stafford remarked that he would impose the maximum fine of $10,000 in addition to imprisonment (THE JOURNAL, January 9, p. 122).

FLORIDA

Health at Jacksonville.—Telegraphic reports to the Bureau of the Census for the week ending January 9, from sixty-nine cities of the United States with a population of 29,000,000, show that Jacksonville had the highest general mortality rate (27.8) and the highest infant mortality rate (153).

Dr. Bresnahan Goes to New York.—Dr. John F. Bresnahan, formerly superintendent of the James K. Jackson Memorial Hospital, Miami, has accepted the superintendency of St. Mark's Hospital, New York, succeeding Dr. Jesse L. McElroy, who is now superintendent of the University of Iowa Hospital, Iowa City.

Smallpox at Tampa.—Four cases of smallpox were discovered in negroes in Tampa, Dec. 10-11, 1925, and the number of cases had increased to a total of forty-three, January 12. Almost all of these cases have been mild. There have been no fatalities. The city health officer, Dr. Ernest C. Levy, writes that there is no unusual smallpox situation and nothing to create the slightest alarm. The only bad phase of the situation, he says, is that in the past vaccination had been almost completely neglected. He is conducting a vigorous campaign of vaccination, having distributed to employers 500 copies of a letter urging that they see that their employees are vaccinated at once, and another letter to physicians urging them to take the initiative in vaccinating families in which they practice and to be on the lookout for smallpox. A vaccination campaign also is under way in the schools.

ILLINOIS

Poliomyelitis Outbreaks.—The state department of health reports that five cases of poliomyelitis were reported last week from as many different places in the state. In the corresponding week last year there were no cases reported.

Chiropractors Leave Sterling.—State inspectors visited Sterling, January 5, to inform the chiropractors that unless they secured a license, court action would be started against them; the result was that chiropractors E. O. Oltmans, C. A. Stout, and Williams and Williams have closed their offices in Sterling.

Seventh Successive Decline in Tuberculosis Death Rate.—Provisional figures issued by the state health director indicate that the death rate of tuberculosis in 1925 in Illinois was 79 per hundred thousand population, a decline of two points from the previous year, and the seventh successive annual decline in the death rate in this state. Dr. Rawlings said that this drop began almost simultaneously with the "stupendous" eradication campaign that is going on, at a cost of more than $15,000 a day. Most of that sum goes to the thirty-one sanatoriums, which operate at an annual outlay of about $3,500,000; another million goes for testing cattle for tuberculosis. The death rate from tuberculosis in 1918 was 134, in which year 8,402 persons died; last year 5,508 deaths were attributed to tuberculosis. The decline in the tuberculosis death rate is regarded as justifying a campaign of eradication that is said to have no parallel in the history of the state.

Chicago

Joint Meeting.—The Chicago Medical Society and the Chicago Dental Society will hold a joint meeting at the Drake Hotel, January 27, at 7:45, which will be addressed by Dr. William D. Haggard, Nashville, Tenn., President of the American Medical Association, on "Team Work for the Health of the People," and by Sheppard W. Foster, D.D.S., president, American Dental Association, on "A Dental Educational Program."

Society News.—Drs. Peter Bassoe and George B. Hassin addressed the Chicago Neurological Society at the Palmer House, January 21, on "Brain Changes in General Paresis Treated with Tryparsamide."——Miss Maud Slye will address the Chicago Council of Medical Women, January 26, on "The Inheritability of Cancer."——Dr. Roy Grinker will address the Chicago Society of Internal Medicine, January 25, on "Pernicious Anemia, Achylia Gastrica and Combined Cord

Degeneration."——Dr. Esther Loring Richards, associate professor of psychiatry, Johns Hopkins University Medical School, Baltimore, will address the fifteenth annual meeting of the Infant Welfare Society of Chicago, January 27, at the Palmer House, on "Child Behavior."

Layman Board of Health.—Following the passage of an ordinance creating a board of health for Chicago, January 13, the mayor submitted the names of Mr. A. A. Sprague, commissioner of public works, Mr. Francis X. Busch, corporation counsel, Mr. Morgan A. Collins, chief of police, Mr. Frank Doherty, building commissioner, and Mr. Joseph F. Connery, fire commissioner, and the council confirmed the appointments. The board will act, the mayor said, in a judicial and advisory capacity to the commissioner of health, whose authority is not to be abridged by the ordinance. The action taken is said to have resulted from the health commissioner's campaign to provide the city with milk from nontuberculous cows by April 1; it is to prevent the state from defeating the commissioner's plan. Representatives of the state on the recently appointed milk commission are said to insist that there should be a delay with regard to the requirement that no milk shall enter the city from tuberculous cows.

INDIANA

Personal.—Dr. Willard A. Price has been elected mayor of Nappanee.——Dr. Albert E. Bulson, Jr., Fort Wayne, addressed the Montgomery County Medical Society, Miama, Ohio, Dec. 11, 1925, on "State Medicine."——Dr. Charles F. Holtzendorff, Plymouth, has been elected county health officer.——Dr. Florence M. Olmsted has been appointed president, and Dr. William I. Scott secretary of the board of health of Kokomo.——Dr. Paul R. Tindall, Shelbyville, has been appointed county health officer to succeed Dr. J. Willard Parrish.——Dr. Thomas E. Conner, Houston, has been appointed county health officer to succeed Dr. David J. Cummings, Jr., of Brownstown.——Dr. Russell L. Hiatt has been appointed a member of the Richmond Board of Health to take place of Dr. Solomon G. Smelser.——Dr. Homer E. Line, Chili, has been appointed county health officer.——Dr. Joseph L. Allen, Greenfield, has been appointed county health officer of Hancock County.——Dr. William F. Shumaker, Butler, has been appointed health commissioner of DeKalb County for a term of four years, succeeding Dr. Willard W. Swarts, Auburn.

IOWA

Society News.—Dr. William H. Von Lackum, Mayo Clinic, Rochester, Minn., addressed a joint meeting of the Scott-Rock Island County Medical societies, Dec. 21, 1925, on "The Prostate as a Focus of Infection."

Personal.—Dr. Anthony P. Donohue has been elected president of the staff of the Mercy Hospital, Davenport; Dr. James R. Guthrie, president of the medical staff of St. Joseph's Mercy Hospital, Dubuque, and Dr. William J. S. Cremin, president of the surgical staff of St. Joseph's Hospital, Sioux City.——Dr. Alvin H. Hendrickson, Sioux City, has been appointed county physician.

KENTUCKY

Personal.—Drs. William C. McCauley and Samuel M. Steadman of Versailles, both of whom have served twenty years as members of the Woodford County Board of Health, tendered their resignations, effective, January 1.——Dr. Henry V. Johnson, Georgetown, has been elected president of the board of health of Scott County, to succeed the late Dr. William H. Coffman.——Governor Fields appointed Dr. George T. Fuller, Mayfield, a member of the state board of health, January 2.——Dr. J. Watts Stovall, Grayson, has been appointed by the governor a member of the state medical board to succeed Dr. Robert Julian Estill, Lexington, whose term expired.——Dr. Edward P. Whistler, Louisville, has been elected county health officer for a term of four years.——Dr. Samuel L. Adair, Jr., New Washington, has been appointed county health commissioner.

LOUISIANA

Hospital for Algiers.—Mr. Jules Bodenger has donated a square of ground as a site for a hospital in Algiers, New Orleans, and also offered to match the individual cash donation of any resident in that part of the city. This suburb of New Orleans on the west bank of the river has no hospital; patients must be transported in ambulances on ferries. A campaign to raise about $100,000 for the construction of a hospital is being planned by the Algiers Branch of the Association of Commerce, and a hospital committee has been appointed with Dr. Alfred C. King as chairman.

MARYLAND

Six Hundred New Cases of Measles.—During the week ending January 10, 601 new cases of measles were reported in Baltimore, making a total, since Nov. 1, 1925, of 2,150 cases; two deaths were reported the previous week.

Quarantine Officer Appointed.—Dr. Charles W. Vogel has been appointed by the Surgeon General, U. S. Public Health Service, as quarantine officer at Baltimore to succeed the late Dr. Thomas L. Richardson. Dr. Vogel was born in Baltimore.

MICHIGAN

Beaumont Lectures.—Dr. Anton J. Carlson, chairman of the department of physiology, University of Chicago, will deliver the William Beaumont lectures before the Wayne County Medical Society, January 25-26, on "Studies on the Physiology of the Alimentary Tract": (1) "Motility"; (2) "The Digestive Secretions"; (3) "The Sensibility of the Gut."

Personal.—Dr. George H. Ramsey of the state department of health is spending a six months' leave of absence studying at Johns Hopkins University Medical School, Baltimore.——Dr. Forrest W. Barry, formerly of Niagara Falls, has been appointed assistant director of the health service at Michigan State College, Lansing, the state health commissioner announced, January 6.

MINNESOTA

Personal.—Dr. George H. Freeman has been appointed superintendent of the St. Peter State Hospital, St. Peter.——Dr. George T. Baskett has been appointed superintendent of the Willmar State Hospital, Willmar.——Dr. David L. Tilderquist, Duluth, has been elected president of the Minnesota Academy of Ophthalmology and Otolaryngology.

Increase in Death Rate.—The death rate of Minneapolis for 1925 is said to have been 11.5 per thousand population, as compared with 11.2 in 1924. There was an increase in deaths from tuberculosis, cancer, pneumonia and scarlet fever, and a decrease in the number of automobile fatalities and in deaths from heart disease. The birth rate in 1925 was 22.01, a decrease from 23.3 in 1924.

Outbreaks of Trichinosis.—Five cases of trichinosis recently occurred in Stearns County in persons who ate home-made, smoked, uncooked pork sausage, which had been prepared by relatives of affected persons who lived in North Dakota. An examination of sausage made by the Agricultural College in North Dakota demonstrated the presence of trichina, and blood smears from the patients examined by the Minnesota State Board of Health showed an eosinophilia ranging from 13 to 28 per cent. Another recent outbreak of trichinosis affected eleven members of one family in Jackson County, who also ate home-made, smoked and uncooked pork sausage. This sausage was shared with relatives from Iowa, and five of them also developed trichinosis. The state board was unable to obtain this sausage for examination; blood smears of these patients, however, showed an eosinophilia ranging from 16 to 64 per cent.

MISSOURI

Memorial to Dr. Shapleigh.—The Shapleigh family, St. Louis, has given $45,000 for the new auditorium of the St. Louis Medical Society, as a memorial to Dr. John Blasdel Shapleigh, who died Sept. 15, 1925.

Dr. Shankland Appointed Hospital Commissioner.—The director of public welfare of St. Louis has appointed Dr. James Wilbur Shankland hospital commissioner of that city to succeed the late Dr. Germaine A. Jordan. Dr. Shankland has been on the chief staff of the City Hospital for four years, and has been superintendent of the surgical clinic of St. John's Infirmary; formerly he was on the faculty of St. Louis University medical and dental schools.

Society Dedicates New Home.—The Jackson County Medical Society, Kansas City, dedicated its new home and library, January 5; among the representatives of other organizations were the mayor, the president of the Kansas City Bar Association, of the Chamber of Commerce, the president of the Missouri State Medical Society, the president of the Kansas City Dental Society, and the public librarian; among the conveniences installed in the new home are a lantern, blackboard, pulpit and call-system.

NEW YORK

Resignations at State Hospitals.—The State Hospital Quarterly (November, 1925) reports the resignations of the following physicians from the state hospital indicated:

Dr. Carter N. Colbert, Brooklyn State Hospital, Sept. 30, 1925.
Dr. Harold O. Cozby, Binghamton State Hospital, July 23, 1925.
Dr. Karl F. G. Hoffman, Kings Park State Hospital, Sept. 16, 1925.
Dr. Patrick H. Huntington, Hudson River State Hospital, Aug. 16, 1925.
Dr. Isadore Lewis Jerge, Buffalo State Hospital, Sept. 21, 1925.
Dr. Moritz Lewinsohn, Kings Park State Hospital, July 15, 1925.
Dr. Carl W. Lupo, Brooklyn State Hospital, Sept. 15, 1925.
Dr. Waldemar G. Richter, Gowanda State Homeopathic Hospital, Sept. 1, 1925.
Dr. Edward A. Rowland, Kings Park State Hospital, Sept. 1, 1925.
Dr. Percy R. Vessie, Gowanda State Homeopathic Hospital, Sept. 1, 1925.

Personal.—Dr. Ross D. Helmer, formerly senior assistant physician, Utica State Hospital, assumed the duties of physician in charge at Marshall Sanatorium, Troy, Dec. 1, 1925. ——Drs. George N. Hall, Mary J. Ross, George S. Lape and Blinn A. Buell have been appointed district health physicians for Binghamton.——Dr. Harry A. Pattison, field secretary, National Tuberculosis Association, has resigned, to take charge of a sanatorium at Hudson.——Dr. Archibald K. Benedict, Sherburne, has been appointed superintendent of the Chenango County Sanitarium to succeed Dr. Don U. Gould, resigned.——Dr. John J. Lloyd, Jr., for several years medical superintendent, Monroe County Tuberculosis Sanitarium, has resigned to devote his time to private practice.

New York City

Harvey Lecture.—Edward B. Wilson, Ph.D., professor of vital statistics, Harvard School of Public Health, Boston, will deliver the fifth Harvey Society lecture at the New York Academy of Medicine, February 6, on "Empiricism and Rationalism."

Society News.—The Audubon Medical Society of Washington Heights held its first annual dinner, January 21, at the Hotel Biltmore; the occasion was also a testimonial to Dr. Theodore K. Tuthill, who has practiced in New York for fifty years.

Booklet for Tuberculous Patients.—The Tuberculosis Sanatorium Conference of the New York Tuberculosis and Health Association has issued a booklet entitled "Getting the Most Out of Your Cure," for distribution to patients to help them understand tuberculosis, and to teach them how to care for themselves while in the hospital; it deals, in simple language, with food, rest, temperature, body weighs, personal hygiene, and the tubercle bacillus.

University News.—Columbia University announces courses in gastro-enterology, beginning January 26 and March 23, for those graduated in medicine who desire knowledge of the principles underlying modern diagnosis and treatment of gastro-intestinal disorders. There will be a preliminary course comprising seventeen exercises of which fourteen are lectures, and three roentgen-ray demonstrations, and a practical course comprising ten clinical and laboratory exercises. Communications should be addressed to the dean of the school of medicine, 437 West Fifty-Ninth Street.

Hospital News.—Brooklyn has appropriated $600,000 to double the capacity of the Coney Island Hospital.——All patients in the U. S. Marine Hospital on Hudson Street were removed to the base hospital in Brooklyn, Dec. 28, 1925.——The drive for $1,000,000 for the United Hospital Fund has passed the $565,000 mark, and will continue until February 15.——About $160,000 has been subscribed toward the fund to enlarge the French Hospital on West Thirty-Fourth Street, by a building to contain 175 beds.——The new Hillside Sanitarium at Jamaica, Long Island, was opened, January 6, by a banquet of physicians of that community.

Personal.—Dr. Hideyo Noguchi was given a complimentary dinner at the University Club, New York, January 15, by the trustees, scientific directors and members of the Rockefeller Institute for Medical Research.——Dr. Louis Dlugasch has been elected president of the Beth Israel Hospital Alumni Association.——Dr. Joseph Eastman Sheehan and Cornelius G. Coakley, among many others, will teach at the International Clinic of Oto-Rhino-Laryngology and Facio-Maxillary Surgery at St. Louis Hospital, Paris, France, from May to August.——Alfred J. Asgis, D.D.S., will be in charge of courses at the Stomatological School recently chartered by the University of the State of New York, and functioning under the auspices of the American Stomatological Association. He has resigned from the department of gastro-enterology of the New York Polyclinic Medical School and Hospital.

NORTH DAKOTA

Personal.—Dr. George H. Spielman, Mandan, has been elected president of the Sixth District Medical Society, and Dr. Robert W. Henderson, Bismarck, secretary-treasurer.

Health Work at Fargo.—The child health demonstration and the city health department of Fargo have brought about an increase of interest in health in that community. The Fargo commission has increased the appropriation for health work in the city, and the board of education has employed two school nurses to work twelve months in the year; six visiting nurses under the direction of the demonstration have reached almost 100 per cent of the infants and 1,209 preschool children, whereas, there were only 548 preschool children on their lists previous to last year. The gradual, upward trend of health among the school children is apparent; 14.4 per cent of them were free from physical defects last year, and only 6.4 per cent the previous year; 64 per cent of the mothers accompanied their children to the examinations last year. The medical society and the health authorities initiated a campaign against diphtheria; the Schick test has been applied in all but two of the fifteen schools. Only one resident case of smallpox was reported in the city last year, and 5,000 persons were vaccinated against smallpox. There were seventy fewer deaths in the city up to Dec. 15, 1925, than there were on the same day of 1924. Dr. William DeKleine, who has been in charge of the child health demonstration in Mansfield, will reach Fargo in February to take charge of the demonstration, succeeding Dr. William J. French, who was selected by the Commonwealth Fund to direct its health campaign in Austria; the city health officer is Dr. Burton K. Kilbourne.

OHIO

Record Epidemic of Measles.—There were 1,316 patients in Cleveland, under quarantine for measles, January 8, it is reported; 150 new cases were reported, January 7, and 200, January 6. This is said to be the largest epidemic of measles in the history of the city. The health officer considers that the situation is now under control.

Dr. Sloan Appointed to Lakeside Hospital.—The director of the Lakeside, Maternity and Babies' hospitals, Western Reserve University, Cleveland, announces the appointment of Dr. Thomas Dwight Sloan, as his associate. Dr. Sloan's particular work will be the administration of Lakeside Hospital; he was formerly medical superintendent of Peking Union Medical College Hospital, Peking, China.

Personal.—Dr. Samuel J. Ellison, West Union, has been reappointed health commissioner of Adams County.——Dr. Claud C. Craig has taken up the duties of the mayor of Urbana.——Dr. Edgar L. Vermilya has been reelected city health commissioner of Fremont.——Dr. Clifford J. Baldridge has been reelected health commissioner of Hamilton.——Dr. Frank W. Dannecker has been appointed health commissioner of Van Wert, to succeed Dr. Auldy T. Rank.——Dr. Jesse J. Heaton, McCutchenville, has been appointed health officer of Seneca County, to succeed Dr. Henry L. Hinkley of Green Springs.——Dr. John A. Gosling has been appointed city health commissioner of Tiffin.——Dr. Orange H. Thomas, Fremont, has been reappointed county health commissioner. ——Dr. Norman E. Brundage has been reappointed health commissioner of Delphos.——Dr. George W. Heffner, Circleville, has been appointed county health physician.——Dr. Frank L. Moore, Fremont, has been reappointed county jail physician for the seventh consecutive year.——Dr. Walter J. Weiser has been reappointed health commissioner of Marion.

PENNSYLVANIA

Dr. Alexanderoff Fined.—Dr. Charles Dubin Alexanderoff, 702 Fifth Street, Philadelphia, was recently fined $500 for violation of the Harrison Narcotic Law, it is reported.

Gift for the Poor.—Dr. Henry T. Trumbauer, Coopersburg, has given $50,000 to St. Luke's Hospital, Bethlehem, the income of which is to be exclusively used for the treatment of patients who are unable to pay. Dr. Trumbauer, who is now 86 years of age, graduated from Jefferson Medical College in 1863, and has been in practice sixty-one years.

No Deaths from Typhoid in Erie.—The city health officer of Erie reported, January 5, that there were no deaths from typhoid in that city in 1925, although twenty-three cases of typhoid or paratyphoid were reported to the health department; in the winter of 1910-1911 there were 136 deaths in the city from typhoid. The recent record is attributed largely to the protection given the city water supply.

Miscellaneous Items.—The first full-time county medical director to be appointed in Pennsylvania, Dr. S. J. Dickey, Grove City, assumed his duties, January 1.——Four parochial schools in Philadelphia now have a nursing service, introduced by the Philadelphia Health Council and Tuberculosis Committee.——Wilkes-Barre recently conducted a diphtheria prevention campaign in which more than 8,000 children from two to fourteen years of age were immunized by means of toxin-antitoxin, according to the *Atlantic Medical Journal;* the work was done by the physicians of that city and the visiting nurses' association; a similar campaign was conducted two years ago.——In the recent campaign in Williamsport for $600,000 to rebuild the Williamsport Hospital, the physicians of that city subscribed $51,530. The goal was oversubscribed in a short time by $30,000.

Philadelphia

Medical Club Election.—Dr. Wilmer Krusen, director of public health, was elected president of the Medical Club of Philadelphia, January 15, at the Bellevue-Stratford Hotel. The following officers were reelected: Drs. Philip Marvel and Alexander MacAlister, vice presidents; Dr. William S. Wray, secretary; Dr. George A. Knowles, treasurer.

Diphtheria Immunization Authorized.—The Board of Public Education authorized immunization against diphtheria, by means of the Schick test and toxin-antitoxin, January 12, to be carried out by school medical inspectors among school children at the request of parents. The resolution adopted by the board was read by Dr. Solomon Solis-Cohen, chairman of the committee that prepared the resolution; Drs. William H. Zieglar and Edward Martin were the other members. The burden of the responsibility in immunization will rest on the department of public health of the city.

SOUTH CAROLINA

Dr. Riser Resigns.—Dr. Luther A. Riser, Columbia, for about fifteen years head of the county health department of the state board of health, has resigned to accept a position with the Pilot Life Insurance Company with headquarters at Greensboro, N. C., effective April 1. Dr. Riser will be connected with the health conservation department of the insurance company.

TENNESSEE

Dr. Haggard Honored.—At a conference of representatives of all civic organizations in Nashville, in accordance with an annual custom, Dr. William D. Haggard, President of the American Medical Association, was selected as Nashville's leading citizen for 1925. Dr. Haggard was awarded the Kiwanis loving cup, said to be the highest civic honor his community bestows.

Society News.—Dr. Joseph C. Crisler, Sr., was elected president of the Memphis and Shelby County Medical Society at the recent annual meeting; Dr. Louis Levy, vice-president; Dr. Thomas N. Coppedge, treasurer, and Dr. Arthur F. Cooper, secretary (reelected); this is the society's fiftieth year; the house of delegates held ten meetings last year and only once was a quorum lacking. Nineteen society members were received during the year by election, five by transfer and five were transferred to other societies. The membership now, 302, is the highest on record. Dr. John P. Henry recently addressed the society on "Diagnosis of Diabetes Mellitus," illustrated with lantern slides.——Dr. Oswald S. McCown has been elected president of the Memphis Urological Society; Dr. Thomas D. Moore, vice president, and Dr. Hubert K. Turley, secretary-treasurer.——Among the speakers not previously reported in THE JOURNAL for the Tri-State Medical Association which will meet in Memphis, January 26-28, at the Hotel Peabody, will be Dr. George W. Crile, Western Reserve University School of Medicine, Cleveland; Dr. Bethuel B. Vincent Lyon, Philadelphia; Dr. Walter S. Leathers, Vanderbilt University School of Medicine, Nashville; Dr. Charles L. Minor, Asheville, N. C.; Dr. Robert H. Babcock, Chicago; Dr. Thomas R. Brown, Johns Hopkins University Medical School, Baltimore, and Dr. Charles Jefferson Miller, professor of obstetrics and gynecology, Tulane University of Louisiana School of Medicine, New Orleans. The annual dinner of the Tri-State Medical Association will be January 27 (THE JOURNAL, Dec. 26, 1925, page 2041).——Dr. Walker L. Rucks has been elected president of the Memphis Pediatrics Society; Dr. Frank T. Mitchell, vice president, and Dr. William R. Blue, secretary-treasurer.——Dr. Eugene Orr was elected president of the Nashville Academy of Medicine, January 5; Dr. Harrison H. Shoulders, vice president, and Dr. Robert R. Brown, secretary-treasurer (reelected).

UTAH

Utah First "Over the Top."—The first state in the ninth corps area to fill its quota of medical reserve officers was Utah, according to a recent report in *California and Western Medicine.* The medical profession has contributed more than the number of officers allotted to the four medical department units for Utah. The Salt Lake County Medical Society has formally assumed responsibility, it is said, for the promotion and support for these four reserve units.

WASHINGTON

Applicants for Reciprocity Licenses.—Thirty-six practitioners from sixteen states appeared before the state medical examining board at Olympia, January 11, for licenses to practice in Washington by reciprocity with other states; nine were from Minnesota, four from Illinois and three each from Montana, Tennessee, Oregon and Idaho.

Three Years for Draft Evasion.—Dr. Arvid C. Silverberg, Seattle, was tried by court martial at Fort Lawton for evading the draft law of 1917, found guilty, and sentenced, January 9, to three years in prison at hard labor, it is reported. Dr. Silverberg, a native of Finland, came to the United States in 1910, and had taken out his first naturalization papers at the time of the draft. He entered McGill University Faculty of Medicine, Montreal, in 1918, and graduated in 1923. He was an intern in the City Hospital, Seattle, and has been engaged in practice in that city. The record of the trial will be reviewed by reviewing authorities.

WISCONSIN

Dr. Crawford Resigns.—Dr. Albert S. Crawford, Madison, has resigned as associate professor of surgery at the University of Wisconsin Medical School, and as neurosurgeon of the Wisconsin General Hospital, and has accepted a position as neurosurgeon at the Henry Ford Hospital, Detroit. He will take up his new duties, February 1.

Dr. Sauer Sentenced.—According to the *Wisconsin Medical Journal,* Dr. Frederick N. Sauer, proprietor of the Roosevelt Hospital, Milwaukee, was sentenced, Dec. 9, 1925, to serve eighteen months in a federal penitentiary and to pay a fine of $2,000 for violation of the prohibition laws through the sale of liquor prescriptions; one Arthur Steele, said to have been involved with Dr. Sauer, was fined $500.

Personal.—Dr. Carl H. Davis has been elected president of the Milwaukee Academy of Medicine.——Dr. Thomas W. Tormey, Madison, has been elected a director of the Commercial Trust Company in that city.——Dr. Lawrence V. Littig has been appointed in charge of the department of diathermy at the Madison General Hospital.——Dr. Walter A. McEachern, Superior, has been appointed superintendent of the Superior Isolation Hospital in that city.——Dr. Lenore R. O'Brien, Harrisburg, Pa., has been appointed assistant physician on the medical staff of the Northern Colony and Training School, Chippewa Falls, to succeed Dr. Sophie A. Granosky, resigned.

Dr. Schmidt Appointed Professor of Surgery.—Dr. Erwin R. Schmidt, Chicago, has been appointed professor of surgery at the University of Wisconsin, Madison, and surgeon of the Wisconsin General Hospital, to succeed Dr. Carl A. Hedblom, who recently resigned to accept a similar position at the University of Illinois College of Medicine, Chicago. Dr. Schmidt graduated at the University of Wisconsin in 1913, and was instructor in the department of anatomy for a year; he graduated in medicine at Washington University, St. Louis, served internships at Barnes Hospital, in the service of Dr. George Dock, and at Augustana Hospital, Chicago, in the service of Dr. Albert J. Ochsner, and had training in neural surgery in the service of Dr. Charles H. Frazier at the University of Pennsylvania Hospital, Philadelphia. During the World War, Dr. Schmidt was in charge of Base Hospital no. 11, in France; he returned to Chicago to become chief of the assistant's clinic in the service of Dr. Ochsner, and from 1921 to 1923 he was exchange assistant in the service of Prof. Einar Key at Maria Hospital, Stockholm, and in the service of Professor Victor von Schmieden at Frankfort-on-the-Main. At the time of his appointment at Wisconsin, Dr. Schmidt was a member of the staff of the Augustana Hospital, Chicago.

CANAL ZONE

Society Election.—At the two hundred and twenty-eighth meeting of the Medical Association of the Isthmian Canal Zone, at the Ancon Hospital, Ancon, Dr. V. H. Cornell was elected president, Dr. Samuel D. Avery vice president and Dr. Lawrence Getz, secretary-treasurer; among others, Dr.

Howard K. Tuttle addressed the society on "Report of Interesting Obstetrical Cases," and Major Edmund B. Spaeth on "Ophthalmic Plastic Surgery by Cervical Flap" (with lantern slides). The February meeting will be at the Colon and Samaritan hospitals.

HAWAII

First Death from Anthrax.—U. N. Oussimenko, bacteriologist for the island of Mauai and a native of Russia, died at Puunene, January 13, of anthrax, the first death on record in the territory of Hawaii from that disease, it is reported; he is said to have been experimenting with anthrax bacilli obtained from a plantation on the island of Hawaii, and to have carried the infection to an abrasion behind his ear while putting on his spectacles.

GENERAL

Journal Changes Name.—Beginning with the January number, the name of the *American Journal of Electrotherapeutics and Radiology*, official organ of the American Electrotherapeutic Association, will be *Physical Therapeutics*. The former name was considered by those in authority as cumbersome and not "all-inclusive."

Examination in Otolaryngology.—The secretary of the American Board of Otolaryngology announces that an examination will be held by the board in Dallas, Texas, April 19, and in San Francisco, April 27; applications should be made to the secretary of the board, Dr. Hanau W. Loeb, 1402 South Grand Boulevard, St. Louis.

Congress on Internal Medicine.—Among the guests of the Congress on Internal Medicine to be held in Detroit and Ann Arbor, February 22-27, under the presidency of Dr. Charles G. Jennings, Detroit, will be Professor Knud Faber, University of Copenhagen, Denmark; Clarence C. Little, president, University of Michigan, Ann Arbor, Mich.; Prof. Charles F. Martin, McGill University Faculty of Medicine, Montreal; Dr. Andrew C. Ivy, Northwestern University School of Medicine, Chicago; Dr. William J. MacDonald, St. Catherines, Ontario, and Prof. Charles Manning Childs, Ph.D., University of Chicago, Chicago. A cordial invitation is extended to all physicians in good standing; information can be obtained from Dr. Frank Smithies, secretary-general, 920 North Michigan Avenue, Chicago.

New Tri-State Society.—The organization committee of the Tri-State Medical Society for physicians in West Virginia, Ohio and Kentucky, living in the Ohio Valley, announces the first meeting at Huntington, January 28. There will be a banquet at the Hotel Pritchard, on which occasion the permanent organization will be completed. The annual dues will be two dollars; there will be four meetings a year, and the place of meeting will rotate in a prescribed order. Dr. Festus O. Marple, 420 Eleventh Street, Huntington, W. Va., is secretary of the organization committee. At the meeting, January 28, Dr. Frederick M. Allen, Morristown, N. J., will discuss "Diabetes"; Dr. Clifford G. Grulee, Chicago, "Differential Diagnosis of Abdominal Pain in Children"; Dr. George W. MacKenzie, Philadelphia, "Differential Diagnosis of Syphilis and Focal Infection from Their Eye and Ear Manifestations," and Dr. Paul H. Ringer, Asheville, N. C., "Fallacies in the Diagnosis of Pulmonary Tuberculosis."

News of Epidemics.—Five cases of smallpox developed in Sioux City, Iowa, January 4. The city health officer considers there is little danger of an epidemic, since 20,000 persons have recently been vaccinated.——A number of rural schools in Lee County, Ill., were reported, January 6, to have been closed on account of an epidemic of measles.——Fifty cases of measles were reported in Wilkes-Barre, Pa., January 5; seventy-five cases, January 4, and twenty-seven cases, January 2; 185 cases were reported in December, 1925; a number of deaths have been attributed to the epidemic.——The city council of Detroit approved a special appropriation of $11,700 to combat the measles epidemic; the health commissioner reported that there were almost five times as many cases in December, 1925, as in November, there being 940 cases and ten deaths in December.——There has been an outbreak of twenty-five cases of diphtheria in Newport, R. I.; sixty-three persons have been placed in quarantine, including three city officials. There were known to be at least forty diphtheria carriers in the city previous to this outbreak.——Seven hundred cases of measles were said to have been in quarantine in Cleveland, Dec. 30, 1925.

Society News.—Dr. Joseph Erlanger was elected president of the American Physiological Society at the recent meeting in Cleveland; Walter J. Meek, Ph.D., University of Wisconsin, secretary, and Dr. Alexander Forbes, Harvard Medical School, treasurer. Drs. Arno B. Luckhardt, University of Chicago, and Carl J. Wiggers, Western Reserve University, Cleveland, were elected new councilmen.——Dr. Hans Zinsser, Harvard University Medical School, Boston, was elected president of the Society of American Bacteriologists at a recent meeting in Madison, Wis.; Robert S. Breed, Ph.D., New York, vice president, and James M. Sherman, Ph.D., of Cornell University, New York, secretary-treasurer. The next annual meeting will be in Philadelphia.——At the twenty-third annual convention of the Alpha Kappa Kappa Medical Fraternity, Atlanta, Ga., Dec. 29-30, 1925, Dr. William Engelbach, professor of Medicine, St. Louis University School of Medicine, St. Louis, was elected grand primarius; Dr. John P. Sprague, Chicago, grand president; Dr. E. Bates Block, Atlanta, Ga., honorary grand vice president; Dr. Charles Irvin Ennis, Atlanta, grand vice president; Dr. Edward L. Heintz, Chicago, past grand president; Dr. Albert B. Landrum, Columbus, Ohio, grand secretary-treasurer; Dr. Harry G. Irvine, Minneapolis, grand historian, and Dr. William A. Mann, Jr., Chicago, editor of the *Centaur*.——The Western Physiotherapy Association will hold its eighth annual meeting at Kansas City, April 15-16, at Hotel President; information can be obtained from the secretary, Dr. Charles W. Fassett, 115 East Thirty-First Street, Kansas City, Mo.——The Southern Section of the American Laryngological, Otological and Rhinological Society will meet at Asheville, N. C., February 27-28. A special night session will be devoted to the discussion of "Allergic Reaction." Among others, Drs. John A. Kolmer, Harry B. Wilmer, Jr., and George M. Coates, all of Philadelphia, will take part.

New County Society Presidents.—The following physicians have recently been elected president of the county medical society indicated:

Dr. Claudius E. Bandy, Bucklin, Kan., Ford County Medical Society.
Dr. Charles L. Bankhead, Paynesville, Mo., Pike County Medical Society.
Dr. James W. Boger, Sedalia, Mo., Pettis County Medical Society.
Dr. Harry Bookwalter, Columbiana, Ohio, Columbiana County Medical Society.
Dr. Frank V. Boyle, Bowling Green, Ohio, Wood County Medical Society.
Dr. Frederick H. Buck, Shokopee, Minn., Scott-Carver County Medical Society.
Dr. John P. Burke, Jr., California, Mo., Moniteau County Medical Society.
Dr. Robert McG. Carruth, New Roads, La., Point Coupee Parish Medical Society.
Dr. Ernest R. Cole, Winchester, Ky., Clark County Medical Society.
Dr. John M. Coleman, Loveland, Ohio, Clermont County Medical Society.
Dr. Mary G. Day, Kingston, N. Y., Ulster County Medical Society.
Dr. James A. Elliott, Battle Creek, Mich., Calhoun County Medical Society.
Dr. Morris H. Evans, Emerson, Neb., Cedar-Dakota-Dixon-Thurston and Wayne Counties Medical Society.
Dr. Rupert W. Ford, Otsego, New York, Otsego County Medical Society.
Dr. Posey D. Gum, West Plains, Mo., Howell-Oregon County Medical Society.
Dr. Jacob L. Hausman, Marysville, Kan., Marshall County Medical Society.
Dr. Walter A. Hoyt, Akron, Ohio, Summit County Medical Society.
Dr. Francis M. Kissell, Pitsburg, Ohio, Darke County Medical Society.
Dr. Frederick G. Kolouch, Schuyler, Neb., Colfax County Medical Society.
Dr. William P. Lee, Northfield, Minn., Rice County Medical Society.
Dr. Albert L. Majure, Dixon, Miss., Newton-Neshoba-Winston Tri-County Medical Society.
Dr. James A. McCollam, Ulrichsville, Ohio, Tuscarawas County Medical Society (reelected).
Dr. Colin McCormick, Owosso, Mich., Shiawasse County Medical Society.
Dr. John J. Moffett, Port Huron, Mich., St. Clair County Medical Society.
Dr. Thomas J. Perkins, Jackson, La., East and West Feliciana Parishes Medical Society.
Dr. Samuel F. Sanders, Holdrege, Neb., Phelps County Medical Society.
Dr. Edward Schunk, Sheridan, Wyo., Sheridan County Medical Society.
Dr. Fred L. Seger, Lansing, Mich., Ingham County Medical Society.
Dr. Ralph Sheldon, Lyons, N. Y., Wayne County Medical Society.
Dr. Karon P. Sutton, Lewisburg, Ky., Logan County Medical Society.
Dr. Eugene S. Thornton, Muskegon, Mich., Muskegon County Medical Society.
Dr. James A. Townsend, Eureka, Mo., St. Louis County Medical Society.
Dr. Granville B. Trout, Zanesville, Ohio, Muskingum Academy of Medicine.
Dr. Perry I. Tussing, Lima, Ohio, Allen County Medical Society.
Dr. Allison K. Walker, Buchtel, Ohio, Athens County Medical Society.
Dr. Robert B. Wallace, Baton Rouge, La., East Baton Rouge Parish Medical Society.
Dr. William D. West, Mendon, Mo., Chariton County Medical Society.

Bill to Label Lye and Other Caustics.—A bill has been introduced by Senator Pepper of Pennsylvania to safeguard the distribution of lye and other caustic substances in interstate commerce by requiring that they be labeled "poison" when in packages suitable for household use. The American

Medical Association has for many years urged the enactment of laws of this character; they have been enacted in Pennsylvania, Florida, Louisiana, South Carolina, West Virginia, Colorado, Minnesota, Nevada, New Hampshire, New Jersey, Oregon and Vermont. Senator Pepper's bill requires that the word "poison" be printed in large capital letters and run parallel with the main body of the reading matter on the label. It departs from the conventional requirement that "poison" be printed in red, which has been found easy to avoid by printing in red ink on a red or near-red background. Senator Pepper's bill requires that the color used shall be in distinct contrast with the background. The bill is worded so that it cannot be construed as limiting sales to registered pharmacists. Any merchant can sell the articles covered by the bill if he complies with the conditions laid down. Fines and imprisonment are provided for those who deliver for interstate shipment any dangerous caustics covered by the bill, otherwise than as provided by it. Substances unlawfully shipped may be seized through condemnation proceedings in federal courts. Prior to its introduction in the Senate, the bill was submitted to the Secretary of Agriculture, who stated that the purpose of the bill is laudable and that no sound objection can be made to the principles involved. The bill has the approval of the Lye Section of the American Grocery Specialty Manufacturers' Association, which represents the distributors of a large part of the lye sold for household use. Through its attorney, Charles Wesley Dunn, the association named has approved the measure. Senator Pepper's bill corresponds with the model state lye law that has already been adopted by most of the states named above. If enacted, it will tend to reduce to a minimum the difficulties encountered by the distributors of lye and other caustic substances, by making a single label adequate for interstate commerce as well as for commerce within the states that have adopted or may adopt the model law.

FOREIGN

Personal.—Dr. E. Joseph, Berlin, has been elected an honorary member of the Italian Urologic Society.——Dr. L. Lichtheim, Bern, professor emeritus, Königsberg, recently celebrated his eightieth birthday. A bust was unveiled at the medical clinic, and at Bern a second bronze bust was presented, designed for the medical clinic at Bern, where he worked for ten years early in his career, and where Biermer, Munk, Naunyn and Quincke also served for a time. Sahli is the present incumbent.——Drs. Lechler, Robert and Schnapauff are the oldest members of the Rostock Medical Society which celebrated its semicentennial in December.——The *Münchener medizinische Wochenschrift* mentions the return to Hamburg of Dr. E. F. Müller, privatdozent, who was given a two-year leave of absence to work at Columbia University, New York, on the invitation of the late Dr. J. A. Fordyce.——Dr. Pässler, Dresden, is to preside at the German Internal Medicine Congress, which meets at Wiesbaden, April 12, this year. The topics to be discussed are "Treatment of Neurosyphilis"; "The Blood as the Mirror of Somatic Processes," and "Asthma."——The Nobel prize in physics for 1924 has been awarded to Professor Siegbahn, Lund, for his researches on the roentgen ray. He is 39 years of age.——Professor Bar has been elected president of the French Académie de médecine, at Paris, and Professor Gley vice president.——An artistic plaque was recently presented to Prof. P. Mauclaire, Paris, by his friends and pupils in tribute to his long and devoted service as surgeon to the hospitals and as teacher.

Deaths in Other Countries

Dr. **H. Luc,** Paris, the laryngologist whose name is associated with the Caldwell-Luc operation on the antrum, aged 70.——Dr. **E. Fraenkel,** professor of pathology, Hamburg, aged 72.——Dr. **F. Tuczek,** professor of psychiatry, Marburg, aged 74.——Dr. **J. Znojemsky,** professor of surgery, Prague, aged 52.——Dr. **P. von Kuznik,** professor of surgery, Budapest, aged 61.——Dr. **K. Abraham,** Berlin, president of the International Psychanalysis Association, aged 48.——Dr. **Bilhaut,** founder of the International Hospital at Paris.——Dr. **E. De Smet,** emeritus professor at Brussels, aged 83.——Dr. **J. Jankovski,** emeritus professor of surgery, Riga, aged 76.

CORRECTION

Violation of State Pharmacy Act.—Dr. Charles B. Pinkham, secretary, California State Board of Medical Examiners, writes that the citation of Dr. William S. Fowler to appear before the board, March 9, was based on his plea of guilty to a charge of violating the state pharmacy act instead of the state medical act (THE JOURNAL, January 2, page 42).

Foreign Letters

LONDON

(From Our Regular Correspondent)

Dec. 26, 1925.

Sexual Offenses Against the Young

A report of great importance has been made by the departmental committee on sexual offenses against young persons, which was appointed in 1924 to collect information, and take evidence as to the prevalence of sexual offenses against young persons, and report on the subject. The committee finds that there are many more sexual offenses against young persons than are reported; that when proceedings are taken the proportion of acquittals is high; that there is a considerable decrease in sexual crimes accompanied by violence; that there is a distinct increase in indecent assaults on boys and girls under 16, and that owing to the practice of reducing charges, mainly in the interests of the child, the statistics now include a proportion of more serious offenses, which is an additional ground for viewing their increase with concern. At present the "age of consent" (before which intercourse with a girl, even with her consent, is a crime) is 16 years. The committee has received much evidence of the instability of young persons, both boys and girls, during growth and adolescence. At this period, indiscipline and reckless conduct are not signs of maturity, but rather of ill balanced and poorly adjusted mental and emotional development. The committee therefore considers that it is unsound in principle that methods of control and of protection under the law should cease at 16, with the result that thereafter both sexes are held fully responsible as if they were adults. It recommends that it shall be an offense to have unlawful intercourse with a girl under 17; that the consent of those under 17 shall be no defense to an indecent assault, and that the Punishment of Incest Act shall be so amended as to prohibit a prosecution for incest of a girl under 17.

There is evidence of a considerable amount of indecent exposure to and of indecent assault on children in public places, especially in the summer months and during school holidays. The use of parks and gardens by young persons who are perhaps courting is one to which no exception can be taken, but the committee has had complaints of the harm done to children by the sight of couples lying in the grass in an abandoned and suggestive manner, and children have been known to watch and comment, and in some cases to imitate, such behavior. Cases of indecency in cinemas have been brought to the committee's notice, but it has reason to think that they are less common than formerly. The committee has made a number of recommendations which no doubt will be the basis of legislation:

1. The annual criminal statistics should contain a separate table giving complete returns as to sexual offenses against young persons, and the statistics of "attempts" should be shown separately.

2. It should be an offense, triable summarily and governed by the law as to indecent assaults, for a male to commit an act of gross indecency with a young person, male or female, under 16; the young person shall not be prosecuted for being concerned in the offense.

3. Courts of summary jurisdiction shall have power to grant a separation, maintenance, cost, and the legal custody of her children to a wife whose husband has been convicted of incest, carnal knowledge, or of the attempt, or of a grave indecent assault, on one of his daughters.

4. The "age of consent" shall be raised to 17.

5. The defense of reasonable belief that a girl was 16 or over (now available) shall be abolished; where there are extenuating circumstances, a young man found guilty on

indictment and placed on probation shall not have a conviction registered against him.

6. Twelve months (instead of nine as at present) shall be the time limit for taking proceedings under the Criminal Law Amendment Act (which deals with the offenses under discussion).

7. In the case of indecent offenses, properly trained women shall take the statement of girls; but when this is not possible, a woman shall be present while the policeman is taking the statement.

8. When a medical examination of a girl is necessary, it should, whenever possible, be carried out by a woman physician.

9. Subject to certain reservations, the court shall be cleared when young persons are giving evidence as to an indecent offense, and at no time shall a young person under 16 remain in court, unless his or her presence is specifically required.

10. The extreme difficulty of bringing to justice an offender committing offenses against a number of children separately shall be rectified by parliament.

11. The name, address or photograph of a young person concerned as a witness, or as a young offender, in these cases shall not be published except by the express order of the court.

12. After conviction, but before sentence, the bench shall remand all cases of indecent exposure, all sexual offenders previously found guilty of an indecent offense, and all cases in which the court suspects mental disease, disorder or defect.

13. Those who commit repeated indecent offenses against young persons shall be subject to prolonged detention in suitable institutions.

14. The statutory requirements as to the care of children employed in entertainments shall be extended to include the care of young persons up to the age of 17.

15. There shall be better supervision in parks, fairs, cinemas and school precincts.

16. Student teachers should receive instruction at college as to the best method of giving older children, individually, instruction on matters of sex.

The committee consisted of three men, three women and a physician (male) with a chairman (male). The three male members (excluding the physician) are unable to agree to the recommendation to raise the "age of consent" to 17, for the reasons, among others, that a female develops more rapidly than a male, and that a girl of 15 is generally materially older than a youth of the same age; that they are not satisfied that the weight of informed public opinion is in favor of raising the age of consent above 16; that the support given to the proposed change depends largely on confusion between the ideas of immorality and crime, and that punishing immorality with girls under 17 might result in producing a fresh class of criminals of one sex without necessarily raising the moral standard of the other. One woman member, while in favor of raising the age of consent, considers that this cannot be considered apart from the raising of the age of criminal responsibility for a boy. She believes that a case can be made out for raising the age in both sexes to 18. Two of the male members are unable to agree with the fifth recommendation, which in the case of a charge of carnal knowledge removes the defense of reasonable belief that the girl was 16 years of age or above. Thus it will be seen that the views of the committee show a sexual differentiation. It certainly seems that the women members (of whom only one is married) have in some of their findings failed to distinguish adequately between immorality and crime. Otherwise this carefully drawn up report, based on thorough investigation, should prove valuable in future legislation.

Sir Richard Douglas Powell, Physician to the King

Sir Richard Douglas Powell, Bt., an authority on diseases of the lungs and heart, has died at the age of 83. He was physician in ordinary successively to Queen Victoria, King Edward VII and King George V. He studied at University College Hospital, and graduated in 1865 as M.B. at the London University. In 1866 he took the London M.D. degree with honors. In 1867 he was admitted to the membership of the Royal College of Physicians of London, of which he became a fellow in 1873, senior censor in 1902, and president from 1905 to 1910. His first important appointment was assistant physician to Charing Cross Hospital, and lecturer on materia medica in the medical school; but he afterward moved to the Middlesex Hospital, to which he was for many years physician. He was also physician to the Brompton Hospital for Consumption. Friendship with Sir William Jenner led to his early introduction at court and to his appointment as physician in ordinary to Queen Victoria, a position continued by her two immediate successors, and for which his graceful and polished bearing, no less than his ability, rendered him especially well fitted. He wrote many important papers on the diseases of the lungs, the pleura and the heart. His book on Diseases of the Lungs has long been a standard work and gone through six editions. He was a great advocate of outdoor exercise, which he practiced himself.

Death of Two Physicians from Taking Drugs for Insomnia

The West London coroner held on one day inquests on the bodies of two physicians living in Kensington, both of whom had died from the effects of drugs. In the first case the physician, aged 49, was employed in the public health department of the London county council. His widow stated that he had complained of severe pains, due to an internal complaint, which he had had for nearly a year. In order to procure sleep he took morphine, cocaine and barbital. During his last days he had suffered more pain than usual. Dr. R. M. Bronte, government pathologist, said that death was due to barbital poisoning. The coroner said that he had no doubt he had inadvertently taken a slight overdose. He recorded a verdict of death by misadventure. The other physician, who was only 34, enjoyed fairly good health but suffered from insomnia. Sometimes he took more drink than was good for him. In order to overcome the insomnia he also took a special mixture and had admitted that on occasions it had been necessary to take stiff doses. The insomnia appeared to have been due to alcoholism. Dr. Bronte stated that the postmortem examination disclosed 6 ounces of red fluid in the stomach. Death was due to coma and asphyxia due to narcotic poison, probably a mixture containing chloral hydrate and Indian hemp. The coroner recorded a verdict of death by misadventure.

Social Insurance

At the conference on social insurance in relation to the work of the international labor organization of the League of Nations, Sir Arthur Newsholme, formerly principal medical officer of the ministry of health, said that there could be no doubt as to the value of existing official forms of social insurance and of the forthcoming extensions in respect of old age and for widows and children. They all helped to decrease the haunting fear which in the past beset all intelligent wage earners. This was inimical to health, and to have even partially removed it was scarcely less beneficial than the actual provision against unemployment, whether due to industrial conditions, to accident or to sickness, which was now made for one third of the population of this country. He drew attention to a fundamental consideration as to the merits, and the limits of the merits, of national health insurance. Without attempting to state the proportion between preventable and inevitable causes of death, he referred to the fact that only thirty-six out of every 100 deaths occurred at ages over 65. Every death at earlier ages meant that the

debt of the individual to the community had been incompletely paid back. The magnitude of this economic loss was shown by the fact that 39 per cent of total deaths occurred at the working years of life—from 15 to 65. The demands of insurance funds and on the expenses of official and voluntary child welfare work would be immensely reduced if the people were educated to practice the art of hygienic living and would devote the greater part of the money now spent on beer and spirits to increased care of children, including better food and satisfactory housing. No system of medical attendance was satisfactory which separated the insured person from other members of the same family. The physician should be the medical adviser in health, and not only when minor complaints or more serious disease occurred. There was needed above all an intensification and extension of public health work in improved housing, protection of food, etc., and especially in attempting to diminish the evils caused by alcoholism, venereal diseases and tuberculosis—the three greatest causes of premature and preventable mortality—which were responsible for a high proportion of the sickness against which we provided benefits, while not doing their duty to secure their more rapid disappearance.

GENEVA

(From Our Regular Correspondent)

Dec. 26, 1925.

Narcotic Law

The sale of narcotic drugs is now so controlled that the Swiss public has great difficulty in obtaining them illegally. The federal council, Nov. 24, 1925, made the following changes of articles 8 and 24 in the law of June 23, 1925, concerning the sale of narcotics:

Article 8: Public pharmacies managed by druggists possessing diplomas recognized by the canton, likewise physicians, dentists and veterinary surgeons who are licensed to have a private pharmacy of their own may, without special authoriation, buy, use, keep and dispense narcotic drugs within the limits of their professional need. However, public pharmacies which furnish narcotic drugs to other pharmacies, as far as these sales are concerned, come within the provisions of article 6.

Article 24: Physicians, dentists and veterinary surgeons who are not authorized by cantonal legislation to have private pharmacies must procure such stupefacients required in their everyday practice from a public pharmacy on a written prescription.

Physicians, dentists and veterinary surgeons who are authorized by cantonal legislation to have private pharmacies must procure such narcotic drugs as they need for their pharmacies from a public pharmacy.

All cantons may authorize public pharmacies to deliver as urgent medication to be immediately employed, the following preparations of opium of the Swiss pharmacopeia: tincture of opium, laudanum and Dover's powder. The quantity of these preparations delivered in the circumstances stated must not contain more than 0.15 Gm. of medicinal opium and must be inscribed with the patient's name in the prescription register of the pharmacy.

Frontier Sanitary Service

The improvement in sanitary conditions in Europe in general has lowered the risk of importing epidemic diseases into Switzerland. Accordingly, the frontier sanitary service, created in 1920 and strictly enforced since, will probably soon be abolished. The epidemics that raged in oriental Europe and for a long time menaced Switzerland have now disappeared. For some time cholera has not been observed in Europe, while plague is now encountered only occasionally in Mediterranean ports. Typhus fever, which has always been the most serious menace to Switzerland, is now rarely seen outside areas in oriental Europe where the disease is endemic. This has permitted reduction in the frontier sanitary service. The posts at Basle and Chiasso have been done away with, as it is now considered necessary at these two cities to submit to examination only those travelers returning from Russia. This particular work has now been turned over to the sanitary service of the canton of Basle. For that matter, this service is kept up more to give assistance to impoverished travelers from Russia than to prevent importation of diseases. The posts of Buchs and Brigue only are still active. The Buchs post examined 32,266 persons, 4,632 of them arriving from countries considered contaminated, and of these 1,115 had to be deloused. The remaining 27,634 persons consisted mostly of emigrants, workmen and transported children, all of whom for some reason or other required sanitary control. At the post at Brigue, 2,478 travelers were submitted to sanitary examinations.

Contagious Diseases

The annual report of the federal service of public hygiene for 1924 has just been issued and contains some data relative to contagious diseases in Switzerland. For some time there has been discussion as to the relationship between variola and varicella. During epidemics of variola in Switzerland, numbers of cases of varicella developed. During the years 1921-1924, the number of cases of varicella was greater than ever before. In 1920 there were 1,219 cases, and in the four succeeding years, 2,112, 2,202, 2,104 and 2,079, respectively. This increase is perhaps partially due to the fact that during the epidemic variola was mistaken for varicella.

Considering common contagious diseases, the report shows that in 1924 there was a decided decrease. This is most evident in diphtheria. There were 8,456 cases in 1920, 3,297 in 1923 and 2,656 in 1924. The same decrease has been noted in other countries and is the consequence of the periodic oscillations in the frequency of diphtheria. The Swiss sanitary authorities hope that with early diagnosis the disease may be adequately controlled by serotherapy and prophylactic vaccination of those who have been exposed. The number of bacteriologic examinations of suspected cases reached 9,212 in 1924. For this purpose the Swiss government had an appropriation of 15,000 francs ($3,000); hence, each examination cost a little more than 1½ francs (30 cents).

Scarlet fever has been decreasing for the last few years (3,939 cases in 1920, 2,272 in 1923), but in 1924 a slight recrudescence occurred, the number of cases being 2,351. This was especially due to an epidemic of 630 cases in the canton of Vaud, and 496 cases in the canton of Zurich. In many cases the disease assumed a severe type, an unusual thing in Switzerland. Measles also has been on the decline; in 1923 there were 10,316 cases, while in 1924 there were only 3,242. But oscillations are characteristic of this disease, so that too much reliance cannot be placed on this decrease as far as future epidemics are concerned. Typhoid, which has always been uncommon in Switzerland, reached 263 cases in 1922, and 340 in 1923. But in 1924 only 259 cases were recorded, so that Switzerland still has the fewest cases of this disease.

Contagious affections of the nervous system—epidemic encephalitis, epidemic cerebrospinal meningitis, and acute anterior poliomyelitis—decreased in frequency in 1924. There were only eighty-seven cases of encephalitis in 1924, as compared to 203 in 1923, and of meningitis there were thirty-three and sixty-nine, respectively, in 1924 and 1923. There were 257 cases of poliomyelitis in 1923, and 109 in 1924. The latter disease, usually sporadic, became epidemic, severe and highly contagious in 1923 in certain parts of Switzerland (cantons of Schwyz and Lucerne). In 1924, the affection retained its epidemic character in the canton of Lucerne; in the other

parts of Switzerland it remained sporadic. Epidemic hiccup has appeared to the medical profession here, as in other countries, to be related to influenza or to epidemic encephalitis. Twelve cases were recorded in 1924. During the last few years, cases of trachoma have been reported from time to time, and in 1924 they reached a total of thirteen and the patients were interned in hospitals until the contagious phase had passed.

Neoplasms of Rectum

A thesis was recently upheld at Paris by Dr. René Galard on the operative indications and treatment of villous neoplasms of the rectum. These tumors, although benign for some time, may at length undergo malignant transformation. In the case of a benign growth with a very pliable, soft base, it is enough to excise the growth with its area of implantation, including a broad collar of healthy mucosa, although it is more prudent to resect the entire thickness of the rectal segments involved. When malignant transformation has taken place, perineal amputation of the rectum should be done; while, should the neoplasm have reached the inoperable stage, deep radiotherapy will give relief.

Gift to University of Strasbourg

The Rockefeller Foundation has recently made a donation of three million francs (roughly $10,500) to the Faculty of Medicine of Strasbourg. One million of this sum is to be used for building an otolaryngologic clinic; the second million is for building an institute of histology. The third million is to be used to subsidize research workers.

NETHERLANDS

(From Our Regular Correspondent)

Dec. 15, 1925.

The Fourth International Congress on Industrial Accidents and Occupational Diseases

In addition to the papers summarized in previous letters (THE JOURNAL, Dec. 5, 1925, p. 1825, and January 16, p. 213), several further interesting communications were presented at the fourth International Congress on Industrial Accidents and Occupational Diseases, held in Amsterdam.

COMPENSATION FOR MINOR INJURIES

Professor Julliard of Switzerland and Dr. Liniger of Frankfort, Germany, discussed the compensation for injuries resulting in disability of from 5 to 20 per cent. The custom of allowing compensation for minor injuries seems to be giving good results. Whenever follow up was possible, it was found that persons compensated for minor injuries had withdrawn their claims in spite of the persistence of considerable disability. If temporary compensation had not been allowed, in many instances disability would have been aggravated to such an extent as to have necessitated ultimately the granting of annual benefits. However, Dr. Baldi of Italy expressed the view that compensation for lower degrees of disability was too high. Baldi suggested that the lowest disability for which compensation be ordinarily allowed should be 15 per cent, in place of the present legal minimum of 5 per cent. However, injuries or diseases of the hand might be indemnified in cases of 10 per cent disability. The minimum compensatable disability of the eyes should ordinarily be 15 per cent; compensation for 10 per cent of disability should be allowed only in cases in which visual integrity did not exist before the accident. Greater discernment in compensation of minor injuries would allow better compensation for the higher ranges of disability.

TRAUMATIC ABDOMINAL AFFECTIONS

François (Belgium), Schmieden (Germany) and Schoemaker (Netherlands) emphasized the frequency of abdominal traumatism from accidents in congested traffic and, more particularly, from automobile accidents. Only a hospital examination will make possible logical treatment. If there is any doubt as to the condition of the abdomen, an exploratory laparotomy may be indicated.

TRAUMATIC ARTHRITIS

Waegner (Russia), Bircher (Switzerland), Smith (England), Ewald (Germany) and Tchudnowski (Paris) discussed traumatic arthritis and its sequels, especially traumatism of the semilunar cartilage. Correlation with an accident should be limited to cases in which arthritis develops during the first year following the accident and at the site of the injury. Absolute proof that an accident occurred must be furnished.

INDUSTRIAL MALARIA

Drs. Diez and Cioffi (Italy) considered whether malaria may ever be regarded as an industrial disease, and whether, in some cases, malaria may result from traumatism. Dr. Diez expressed the view that since the workman is no more exposed than the other inhabitants of the region, malaria could not be regarded as an occupational disease. Dr. Cioffi would exclude from the etiology of malaria all accidents, except severe injuries of the spleen or the bones, which might provoke the recrudescence of malaria.

TRAUMATIC COLOR BLINDNESS

Traumatic color blindness is rare and never permanent. Cioffi had, however, seen it extend over several years. Working capacity is not greatly reduced by color blindness except in certain classes; for example, railway employees. Disability from color blindness may be estimated as 5 per cent if unilateral and 15 per cent if bilateral.

TRAUMATIC UTERINE DISPLACEMENT

Dr. Hussy of Switzerland stated that posttraumatic uterine displacement is encountered only in grave accidents, and the diagnosis should not be made in the absence of the typical symptoms nor if the condition existed before the accident. This is not always possible to establish. Aside from these factors, a full bladder and beginning menstruation are predisposing causes. Operative treatment is not difficult, and compensation (a maximal rate of 10 per cent) is justified only when operation is impossible.

PARTIAL DISABILITY AND INDUSTRIAL REEDUCATION

In many cases of partial disability it is advisable to institute treatment by means of work. Dr. De Hartogh of Amsterdam advocates open-air work shops for victims of accidents. Dr. Oller described work in Spain along this line. Restoration of the capacity to work has been assumed by the government. An institute was opened last year, which endeavors to restore to disabled workmen the greatest possible capacity for work. De Maradiaga of Spain pointed out the necessity of examination of the physiologic, psychologic and mental condition of the patient. The author described the examination; how the record books of the examinees are kept, and how they are employed. In cases in which it is necessary to teach the disabled a new occupation, it is necessary to determine their adaptability for the given trade. The examination should be made under the control of the state, and with the object of giving the most complete instruction possible. Dr. Oller regards occupational reeducation of the disabled as constituting a problem for the solution of which the physician, the designing engineer, the psychologist and the foreman of the workshop must work hand in hand. An institute for the reeducation of disabled workmen must have departments of vocational guidance, surgery and physiotherapy; also schools and workshops for apprentices. Functional adaptation is only a part of reeducation; it includes all the branches of orthopedic

and reparative surgery. Cineplastics and artificial arms have very limited application, and cannot be considered normal instruments. The Krukenberg operation is better adapted for the conditions of labor, but it presents other disadvantages. Industrial reeducation ought to be compulsory.

PNEUMONOCONIOSIS

Professor Collis (England) grouped under the head of pneumonoconiosis: asthma, bronchitis, pneumonia and fibroid phthisis. There are few forms of dust that are harmless if inhaled for long periods. Dr. Sleeswijck (Netherlands) considered particularly pneumonoconiosis and its relations to tuberculosis. The microscopic structure of dusts is unimportant. The less lime a dust contains, the less harmful it is. Silicon in dust is very injurious. The speaker discussed the difficulties of differential diagnosis. Only the discovery of tubercle bacilli establishes the diagnosis of tuberculosis. Of 963 stone cutters examined in the Netherlands, only six showed tubercle bacilli, and five of the six had hereditary defects. In cases of calcicosis and silicosis, tuberculosis is therefore of secondary importance. Dr. Sternberg of Austria suggested the following etiologic division of pneumonoconiosis: (1) microchemical; (2) colloidochemical local, and (3) anaphylactic. Dr. Böhme of Germany stated that only borers of from ten to fifteen years' employment present pneumonoconiosis verifiable by roentgen rays. The percentage is higher in borers of stone than in borers of coal. Only a small number reveal early pathologic symptoms or complain of illness. The low percentage of tuberculous miners is due to the careful selection of men for the work. Workers in stone quarries present a higher percentage than other miners. Dr. Alling observed relatively few tuberculous miners in Sweden, owing principally, he thinks, to good social, hygienic and family conditions. His observations are based on exact data.

OCCUPATIONAL DISEASES OF WOMEN AND CHILDREN

Professor Thiele of Germany declared that the future and the immediate welfare of society demand more strict control of the work of women and children. Industrial work taxes women beyond their strength, more than does house work. The working woman is far from being adequately protected, especially when pregnant or when nursing.

HEALTH INSURANCE IN RELATION TO OCCUPATIONAL DISEASE

Professor Ranaletti asserted that health insurance administrations should treat cases of temporary disability due to occupational disease as ordinary diseases, and cases of permanent disability on the same basis as accidents. Employers should pay insurance premiums, the amount of which should be determined by the kind of work and the risks involved. Furthermore, if there were levied a special premium ranging from 1 to 10 per cent, depending on the hygienic conditions of the industry it would be to the financial interest of employers to establish healthy surroundings and provide prophylactic measures. Decisions with reference to the origin of the disease, the degree of resulting disability and the amount of compensation should be made by a commission. Disputes should be settled by a commission of medicolegal experts. In order that the insured may not abuse the privileges of health insurance, a system of old age insurance should be created with health premiums inversely proportioned to the benefits received by the workmen during their period of activity. All the workmen should be subjected to periodic health examinations.

VOCATIONAL GUIDANCE

The problems of vocational guidance were treated by Van Wayenburg of Amsterdam, who explained the methods of psychotechnics. The graphic representation of vasomotor reactions is the method most frequently employed. The author classifies individuals into several different types—from the normal type down to the type of persons who completely lose their heads in time of danger. Van Went spoke on the reaction time of locomotive engineers and train conductors. Drs. Pryll and Knack of Germany pointed out that medical counsel is valuable for the protection of workingmen and for distribution of the unemployed. In the interest of all concerned, a physician should serve on the national labor commission. The author recommended the collaboration of physicians in the health insurance societies. In Germany the physicians in the schools and in the factories cooperate. Dr. Knack proposed greater centralization of industrial homes under the control of the state. Dr. Spielrein of Moscow discussed psychotechnical studies in the institute for the protection of workmen, at Moscow.

BERLIN

(From Our Regular Correspondent)

Dec. 5, 1925.

Visits of Professors Chagas and Semaschko

We have recently been visited by Professor Chagas, director of the public health service of Brazil and discoverer of the cause of Chagas' disease; also by Professor Semaschko, commissioner of the public health service of Russia. In honor of Chagas, a special session of the Berliner Medizinische Gesellschaft was called, at which the guest delivered a lecture on Chagas' disease. Professor Semaschko has done much toward reorganization of the Russian public health service. At a reception given in his honor at the Russian embassy, Professor Semaschko gave a short account of his reforms, from which I have taken the following statements:

Therapy is not the main object, but the health of the people as a whole. The old régime tended to increase the incidence of environmental diseases; that is, diseases that are associated with poverty, low cultural development of the population, and lack of hygienic habits. The soviet government was unable at first to give to prophylaxis its fullest expression. The war years had brought dissemination of infectious diseases, especially typhus and cholera. Typhus endangered the success of reconstruction activities, and even the existence of the republic. This was the time when, to use Lenin's expression, the question hung in the balance whether the louse would conquer socialism or socialism the louse. Socialism has now conquered the louse. The epidemics have gradually disappeared, and the government is now in a position to introduce sanitation measures, which are essentially prophylactic measures, to a much wider extent than formerly. They begin with the protection of the infant, or, more exactly, with the protection of the health of the mother. Prophylactic measures are directed particularly against social diseases, especially tuberculosis and syphilis. The crusade against these diseases is carried on by means of dispensaries which are charged not only with the healing of disease but also with the improvement of hygienic conditions in their districts. That the care for the health of the population must lie with the people themselves has been the watchword of soviet medicine since the first. In the cities this manner of public health administration has accomplished good results. In the rural districts progress has been slower. Village medical stations are as yet too few and too poorly manned and equipped to get the best results. The outcome has been increase in the population and reduction in the general mortality during the last few years. In the period from 1911 to 1913, the mortality was 27.3 per thousand of population. The birth rate was 43.8, and the excess of births over deaths was 16.5. In the years from 1920 to 1922, at the close of the war, the mortality was 33.4 and the birth rate was 33.0, or an excess of deaths over births of 0.4. In 1921, a year after the end of the war, the

mortality was 22.7, or considerably lower than in the prewar period; the birth rate was 42.5, and the excess of births over deaths was 19.8, or 3.3 higher than in the prewar period. Infant mortality has been greatly reduced. Before the war, the rate in the cities had ranged around 25 per cent. At present the mortality rate in the province of Leningrad is 12 per cent; in the province of Moscow, 13.7 per cent, and in the province of Vladimir, 17.5 per cent. Also the mortality from tuberculosis is decreasing. In 1910, it was 34.4 per 10,000 population in Leningrad; in 1923, 29.3. In Moscow, the mortality from tuberculosis was reduced from 28.5 in 1910 to 17.5 in 1923, and to 16.5 in 1924. The hospitals receive a much larger number of patients than formerly, so that statistics have now a more reliable basis. Even in the rural districts, where there are fewer physicians, the frequentation of hospitals has increased.

Psychotechnical Examinations as Conducted by the Government Railway Service

Four years ago, a psychotechnical examining center for the government railway service was established in Berlin. Similar centers are located in Dresden and Munich. The purpose of these centers or institutes is to examine candidates as to their adaptability or aptitude for certain positions; to develop training methods for beginners, and to put these methods into practice. Since 1921, 17,500 applicants for positions have been examined, about 32 per cent of whom were accepted for employment. Of those accepted, from 94 to 95 per cent have proved themselves adequate to the tasks imposed on them; in 1924 the percentage ran as high as 96. Applicants are examined as to general intelligence, memory, ability to think on technical subjects, clearness of perception of objects in space, manual dexterity, ability to estimate distances and the size of objects with the eye, delicacy of touch in the use of governing mechanisms, tactile sense, and general aptitude for certain positions. For switchmen, locomotive engineers and cashiers there are certain special tests. Applicants for positions as cashiers are conducted to an electrically driven apparatus which throws up every five seconds a numbered aluminum plate, which the examinee is expected to transfer to a definite receptacle which bears corresponding numbers. There are special tests also for ticket agents and for baggage and freight agents. In a car specially equipped for experimentation purposes, special tests are applied to discover whether an applicant for the position of locomotive engineer possesses the necessary psychic qualifications for such responsible work. In a darkened room, a dummy engineer's cab is built and provided with the usual levers and brakes. The examinee looks through a window out on an imitation track. An endless chain flashes from time to time the same signals that the engineer encounters on a real track. The examinee is to manipulate the levers and the brakes according to the signals flashed. An exact record of each applicant's performance is kept.

Marriages

OTTO CHARLES EGDORF, Sedalia, Mo., to Miss Kathleen O'Kelly Maxwell of Norcross, Ga., at New Orleans, Dec. 31, 1925.

DENNIS F. WELDON, Nashville, Tenn., to Miss Susie Cannon of Ardmore, Tenn., Dec. 20, 1925.

W. WELLS BAUM, Marshfield, Ore., to Miss Daphne Conover of Madison, Wis., Dec. 24, 1925.

JOHN CYRIL EBY to Miss Margaret A. Mulcahy, both of Baltimore, Nov. 11, 1925.

HARRY OLIN, Boston, to Miss Jeanette Marilyn Steiner of St. Louis, Dec. 20, 1925.

Deaths

Murray Galt Motter ✠ Washington, D. C.; University of Pennsylvania School of Medicine, Philadelphia, 1890; for several years professor of physiology, Georgetown University School of Medicine; at one time, chief inspector, District of Columbia Health Department, secretary-treasurer, National Confederation of State Medical Examining and Licensing boards, technical assistant and later librarian hygienic laboratory, U. S. Public Health Service; one of the incorporators of the United States Pharmacopoeial Convention, and at one time secretary of the convention; secretary on the section on pharmacology and therapeutics, American Medical Association, 1909-1910; joint author with Martin I. Wilbert of "A Digest of the Laws and Regulations in Force in the United States Relating to the Possession, Use, Sale, and Manufacture of Poisons and Habit-Forming Drugs," 1912-1913; aged 59; died, January 14, of coronary embolism.

Frank David Smythe ✠ Memphis, Tenn.; Medical Department of the Tulane University of Louisiana, New Orleans, 1891; member of the Southern Surgical Association; past president of the Tennessee State Medical Association; formerly professor of diseases of women, Memphis Hospital Medical College, and professor of gynecology at the University of Tennessee College of Medicine, Memphis; on the staff of the Baptist Memorial Hospital and at one time on the staffs of the Memphis City and St. Joseph's hospitals; served in the M. C., U. S. Army, in France, during the World War; aged 58; died, January 1, at a local hospital, of heart disease.

Edward Franklin Wells ✠ Chicago; Medical College of Ohio, Cincinnati, 1874; formerly professor of clinical medicine, University of Illinois College of Medicine; member of the Chicago Society of Internal Medicine and the Chicago Pathological Society; aged 72; died, Dec. 31, 1925, at Milwaukee, of myocarditis.

Cyrus W. Chidester, Delaware, Ohio; Columbus Medical College, 1890; member of the Ohio State Medical Association; formerly on the staff of the Jane Case Hospital; city health officer, formerly mayor of Delaware; aged 65; died, January 4, following a long illness.

Thomas Leonard Richardson ✠ Baltimore; Baltimore Medical College, 1898; formerly city health officer; for fifteen years quarantine officer of the Baltimore station at Fort McHenry; aged 64; died, January 6, at the U. S. Marine Hospital, of heart disease.

Arnold Frederick Mueller, McHenry, Ill.; Milwaukee (Wis.) Medical College, 1908; member of the Illinois State Medical Society; served in the M. C., U. S. Army, during the World War; aged 39; died, Dec. 31, 1925, at Sheboygan, Wis., of pneumonia.

Edward Hitchcock, Springfield, Mass.; Dartmouth Medical School, Hanover, N. H., 1881; member of the Massachusetts Medical Society; since 1904 visiting physician for the state board of charities; aged 71; died, Dec. 25, 1925, at New Haven, Conn.

Herman Armin Klein, Chicago; Jenner Medical College, Chicago, 1899; College of Physicians and Surgeons, Chicago, 1907; on the staff of the Alexian Brothers Hospital, where he died, January 11, of gangrene of the gallbladder, aged 59.

Wilbert Pitkin Bunnell, New Britain, Conn.; Medical Department of the University of the City of New York, 1884; formerly health officer of New Britain; aged 65; died, January 2, of cervical adenitis and mediastinopericarditis.

Byron A. Deakins, Cartwright, Tenn.; University of Tennessee College of Medicine, Memphis, 1890; formerly physician of Hamilton County; aged 58; died, Dec. 6, 1925, at the Chattanooga (Tenn.) Hospital, of cholelithiasis.

William Irving Kelchner ✠ Camden, N. J.; University of Pennsylvania School of Medicine, Philadelphia, 1893; medical director and proprietor of the Cape May County Emergency Hospital, Wildwood; aged 56; died, Dec. 26, 1925.

William W. Henegar, Ninnekah, Okla.; University of the South Medical Department, Sewanee, Tenn., 1900; member of the Oklahoma State Medical Association; aged 52; died, Dec. 24, 1925, at the Cottage Hospital, Chickasha.

Isaac Winfield Wright, Salida, Colo.; State University of Iowa College of Medicine, Iowa City, 1882; formerly mayor of Salida; for six years president of the board of education; aged 75; died, Dec. 30, 1925, of arteriosclerosis.

Thomas J. McKamy, Cleveland, Tenn.; University of Nashville Medical Department, 1898; member of the Ten-

nessee State Medical Association; aged 57; died, Dec. 27, 1925, at the Newell Sanitarium, Chattanooga.

Michael A. Schutz, Elsinore, Calif.; University of Southern California College of Medicine, Los Angeles, 1899; proprietor and physician in charge of the Elsinore Sanitarium; aged 60; died, in December, at Long Beach.

Leonard Lee Gill, Caseyville, Ill.; Bellevue Hospital Medical College, New York, 1886; member of the Illinois State Medical Society; formerly on the staff of the Blessing Hospital, Quincy; aged 63; died, Dec. 28, 1925.

Media Andrews Bunker, Cleveland, Ohio; University of Michigan Homeopathic Medical School, Ann Arbor, 1905; formerly on the staff of the Woman's Hospital; aged 69; died, Nov. 15, 1925, at Primrose, Neb.

Ira W. Upshaw ✠ Fort Pierce, Fla.; National University of Arts and Sciences Medical Department, St. Louis, 1889; member of the Missouri State Medical Association; aged 57; died, Dec. 30, 1925, of heart disease.

Melbourne Raynor, Victoria, B. C.; College of Physicians and Surgeons, Chicago, 1905; on the staff of St. Joseph's Hospital; aged 46; died in December, 1925, of burns received when a can of gasoline exploded.

Elmer Knebb Hottenstein, Akron, Ohio; Jefferson Medical College of Philadelphia, 1883; member of the Ohio State Medical Association; also a dentist; aged 64; died, Dec. 28, 1925, of organic heart disease.

Earl Frederick Smith, Lorain, Ohio; Western Reserve University School of Medicine, Cleveland, 1907; member of the Ohio State Medical Association; aged 44; died, Nov. 15, 1925, following a long illness.

Winfield M. Thome, Mount Joy, Pa.; Baltimore Medical College, 1906; member of the Medical Society of the State of Pennsylvania; formerly deputy coroner of Mount Joy; aged 44; died, Dec. 26, 1925.

Henry Pattison Ashe ✠ Pittsburgh; Western Pennsylvania Medical College, Pittsburgh, 1901; formerly on the staff of the Mercy Hospital; aged 55; died, Dec. 30, 1925, at the Passavant Hospital.

Everett S. Matthew, Divernon, Ill.; St. Louis College of Physicians and Surgeons, 1885; member of the Illinois State Medical Society; aged 63; died, January 4, of cerebral hemorrhage.

George Elmer Flinn, Columbus, Ohio; Columbus Medical College, 1892; served in the M. C., U. S. Army, during the World War; aged 56; died, January 1, at the McMillen Sanitarium.

Clarence Kent Jump, Baltimore; University of Maryland School of Medicine, Baltimore, 1885; formerly on the staff of St. Luke's Hospital; aged 63; died, Dec. 28, 1925, of heart disease.

Stephen Harnsberger ✠ Warrentown, Va.; Kentucky School of Medicine, Louisville, 1877; past president of the Medical Society of Virginia; aged 73; died, January 1, of gastric ulcer.

Phillip Marsden Thomas, London, England; Western Reserve University School of Medicine, Cleveland, 1890; aged 61; died, Dec. 4, 1925, of carcinoma of the stomach.

Arthur M. Brandon, Greenville, Ohio; Medical College of Ohio, Cincinnati, 1891; member of the Ohio State Medical Association; aged 59; died, Dec. 27, 1925, of pneumonia.

Walter B. Cheatham, Dawson, Ga.; Louisville Medical College, 1877; formerly mayor and postmaster of Dawson; aged 72; died, Dec. 25, 1925, following a long illness.

Edward Dismukes Crawford, Atlanta, Ga.; Atlanta School of Medicine, 1907; member of the Medical Association of Georgia; aged 44; died, Dec. 31, 1925, of pneumonia.

Philip William Otterbein Baer, Bardolph, Ill.; Jefferson Medical College of Philadelphia, 1885; member of the Illinois State Medical Society; aged 67; died, Dec. 31, 1925.

William Alfred Porter, Portland, Me.; Washington Homeopathic Medical College, Washington, D. C., 1896; aged 66; died, Nov. 25, 1925, following a long illness.

Cassius Dulany Laws, Bayard, Va.; University of Maryland School of Medicine, Baltimore, 1877; aged 68; died suddenly, Dec. 21, 1925, of heart disease.

Daniel A. De Forest, Boonville, Ind.; Yale University School of Medicine, New Haven, 1858; Civil War veteran; aged 92; died, Dec. 20, 1925, of senility.

George Willis Mills, St. Anthony, Iowa; Chicago Homeopathic Medical College, 1889; aged 69; died, Oct. 3, 1925, at Los Angeles, of chronic nephritis.

Albert A. White, Denver; Long Island College Hospital, Brooklyn, 1878; aged 73; died, Dec. 30, 1925, at St. Joseph's Hospital, following a long illness.

Jessie E. Robertson, Chicago; Hahnemann Medical College and Hospital, Chicago, 1886; aged 63; was found dead in bed, January 10, of heart disease.

David P. Philips, Kenton, Ohio; Starling Medical College, Columbus, 1877; member of the Ohio State Medical Association; aged 75; died, January 4.

Thomas Francis Daly ✠ Chicago; Barnes Medical College, St. Louis, 1899; aged 51; died, January 8, of pulmonary tuberculosis and bronchopneumonia.

Paschal G. Caspian ✠ Chicago; Harvey Medical College, Chicago, 1904; aged 70; died, January 8, of injuries received when struck by an automobile.

Thomas Weston Thomson, Knoxville, Ill.; Rush Medical College, Chicago, 1903; aged 52; died, Oct. 5, 1925, at Los Angeles, of endocarditis.

John T. Wood, Harrisburg, Mo.; Cincinnati College of Medicine and Surgery, 1870; aged 79; died, Dec. 28, 1925, following a long illness.

Paul J. Barcus ✠ Crawfordsville, Ind.; Medical College of Ohio, Cincinnati, 1887; aged 63; died, Dec. 27, 1925, of cerebral hemorrhage.

Robert S. Simpson, McPherson, Kan.; University of Michigan School of Medicine, Ann Arbor, 1867; aged 86; died, January 2, at Wichita.

Albert Head Palmer ✠ Marlboro, N. Y.; Medical Department of the University of the City of New York, 1876; aged 74; died, Oct. 19, 1925.

Warren W. Best, Bolckow, Mo.; University of Louisville School of Medicine, 1898; aged 31; died, Dec. 29, 1925, of cerebral hemorrhage.

Stella Manning Perkins, Hudson, Mass.; Boston University School of Medicine, 1880; aged 69; died in December, 1925, at Eastland, Texas.

John Hamilton Moore, San Antonio, Texas; University of Maryland School of Medicine, Baltimore, 1872; aged 77; died, Dec. 28, 1925.

Robert C. Campbell, Shreveport, La.; Medical Department University of Louisiana, New Orleans, 1867; aged 85; died, Dec. 12, 1925.

Joseph Valentine Haberer, Utica, N. Y.; Medical Department of Columbia College, New York, 1877; aged 70; died, Dec. 7, 1925.

John R. Hathaway, Everett, Wash.; Medical School of Maine, Portland, 1870; aged 79; died, Dec. 28, 1925, at San Diego, Calif.

George T. Britton ✠ Kalamazoo, Mich.; Detroit College of Medicine and Surgery, 1906; aged 48; died, Dec. 29, 1925, of pneumonia.

T. Hamilton C. Bowie, San Francisco; University of Munich, Germany, 1879; aged 70; died, January 6, of paralysis agitans.

Carl Wander Halvor Rasmussen, Los Angeles; Loyola University School of Medicine, Chicago, 1917; aged 48; died, Dec. 29, 1925.

Ezra Prall, Henryville, Ind.; Kentucky School of Medicine, Louisville, 1898; aged 53; was killed, January 2, when struck by a train.

Claude Lafayette Spencer ✠ Dallas, Texas; Baylor University College of Medicine, Dallas, 1920; aged 32; died, Dec. 24, 1925.

Pius Renn ✠ New York; Medical Department of the University of the City of New York, 1896; aged 57; died, January 1.

Francis H. Harrison, Evanston, Wyo.; Bellevue Hospital Medical College, New York, 1866; aged 83; died, Dec. 28, 1925.

John H. Ross, Winterhaven, Fla.; St. Louis Medical College, 1873; Civil War veteran; aged 81; died, Dec. 29, 1925.

Marion Thompson Martin, Woodburn, Iowa (licensed, Iowa, 1886); Civil War veteran; aged 85; died, Dec. 29, 1925.

Walter S. Haven ✠ Racine, Wis.; Northwestern University Medical School, Chicago, 1891; aged 63; died, Dec. 22, 1925.

Calvin A. Chollett, Toledo, Ohio; Toledo Medical College, 1893; aged 60; died, Dec. 9, 1925, of cystitis and toxemia.

William Augusta Allen, Grand Saline, Texas; Meharry Medical College, Nashville, Tenn., 1900; died, January 5.

William Bryant Blackstone, Fort Wayne, Ind.; Chicago Medical College, 1884; aged 65; died, Dec. 26, 1925.

A. W. Foreman, White Hall, Ill. (licensed, Illinois, 1888); Civil War veteran; aged 85; died, Dec. 31, 1925.

The Propaganda for Reform

In This Department Appear Reports of The Journal's Bureau of Investigation, of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other General Material of an Informative Nature

VITALAIT STARTER OMITTED FROM N. N. R.

Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following report. W. A. Puckner, Secretary.

Vitalait Starter (Vitalait Laboratories, Newton Center, Mass.) is a culture of *Bacillus bulgaricus* and *Streptococcus acidi-lactici* in symbiosis intended for the home preparation of fermented milk (New and Nonofficial Remedies, 1925, p. 200).

A physician who wrote to the Vitalait Laboratories of Newton Center, Mass., was informed: "We have not supplied this regularly for some time since the Concentrated Vitalait is superior in every way. . . ." He was supplied with circular matter which dealt in the main with a culture of *B. acidophilus* which is advertised as "Vitalait." This preparation the Council found unacceptable for New and Nonofficial Remedies because it is marketed under a non-informing name; because the claims made for it are unwarranted and misleading; and because it is exploited to the public in a way to lead not only to its use for imaginary ills, but also for conditions in which correct diagnosis and rational medical treatment are all important (The Journal, Dec. 19, 1925, p. 1985).

The Council directed the omission of Vitalait Starter from New and Nonofficial Remedies because it is used as a means of advertising an unacceptable preparation "Vitalait."

STREPTOCOCCUS VACCINE AND MIXED STAPHYLOCOCCUS ACNE VACCINE OMITTED FROM N. N. R.

Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following report. W. A. Puckner, Secretary.

In 1921 the Council decided to omit streptococcus vaccine preparations and vaccines containing a mixture of staphylococci and acne bacilli from New and Nonofficial Remedies when the period for the accepted preparations had expired, unless evidence should develop in the meantime permitting a different course.

The Council decided on this action because experience with these preparations has not established the value which it was hoped they possessed, and because recognized experts to whom the Council looks for help have concluded that streptococcus vaccine and vaccines representing a mixture of staphylococci and acne bacilli have no field of usefulness.

The period of acceptance of the preparations of streptococcus vaccine and staphylococcus-acne vaccine now in New and Nonofficial Remedies expires with the close of 1925. No new evidence has developed to show that these preparations have therapeutic value: therefore, the Council directed the omission from New and Nonofficial Remedies of all streptococcus vaccines and all vaccine mixtures containing staphylococci and acne bacilli.

Syphilis in Africa.—There is one disease, at any rate, that has scourged the whole country and which, until lately, was quite unknown among certain pagan tribes. The European contribution to its spread in West Africa would seem to be through conquering unconquered pagan tribes and then permitting Moslem missionaries to implant their faith and their infirmities in virgin soil. Syphilis seems to follow faithfully, if impartially, the Cross and the Crescent.—Sharp, N. A. D.: *Tr. Roy. Soc. Trop. Med. & Hyg.* **19**:260 (Oct.) 1925.

Correspondence

CONVALESCENT SERUM IN POLIOMYELITIS

To the Editor:—It seems imperative that sharp exception be made to the report of five cases of poliomyelitis treated with intramuscular injections of convalescent serum by Drs. E. B. Shaw, H. M. Thelander, and E. C. Fleischner of San Francisco (The Journal, Nov. 14, 1925), on the basis that the clinical facts presented are at variance with the usual and definite symptomatology of early poliomyelitis.

Poliomyelitis is characterized by a preparalytic period of a fairly uniform duration of three days. This period is in reality the active phase of the disease and is then followed by the appearance of the paralytic sequelae. The manifestations of this early period are remarkably constant. Fever is seldom high, averaging 102 and rarely above 103 F. Headache, rigid neck and tremor constitute an important and almost constant triad of findings. In addition, there may be a peculiar apathy and listlessness but never delirium or coma and, on examination, their mental clearness and alertness are striking. Vomiting and diarrhea may occur, but are rarely pronounced. These symptoms of the preparalytic period are those of a meningeal involvement and, as such, are readily confirmed by spinal fluid findings. The cellular picture of the fluid varies with the severity of the infection and also in reference to the time of puncture. Fluids taken late in the preparalytic period or in the early preparalytic stage show a smaller number of cells and, with the establishment of the paralysis, the cells disappear entirely. The number of cells per cubic millimeter, in the average case and at twenty-four hours, would safely be put at 350 to the cubic millimeter; a cell count below 100 is very unusual and might be interpreted as occurring in a very mild case or at the end of a preparalytic period. Those below 50 in the presence of high fever are almost insignificant and would give rise to much doubt as to the existence of this disease.

Of the five cases reported there is no clinical picture that is consistent with poliomyelitis and, although apology is made for lack of fluid confirmation, there is no comprehensive excuse for such omission. Case 1 may possibly have been a mild and atypical case, but its duration was short, fever was low, and the diagnosis was apparently based entirely on the lack of grasping power of the left hand. This, it must be held, would be difficult to determine fully in a child 3½ years of age, and is, furthermore, against poliomyelitis, as the proximal part of an extremity, such as a shoulder girdle, is usually first involved in any paralytic extension, and the hands and fingers are the last to go. In case 2, "lumbar puncture was not done on account of the evident diagnosis." It must be asked "Why evident?" Certainly, "temperature 104, the delirium pronounced, and incontinence of feces and urine" do not indicate it. Apparently, the diagnosis was made on unobtained abdominal reflexes and diminished knee and Achilles jerks. Rigidity of the neck is noted, but the child was delirious. This certainly is not poliomyelitis. In case 3, "there was no rigidity of the neck," and stress is made on absent abdominal reflexes in a child 5½ years of age; also there were no spinal fluid findings. This, likewise, is definitely inconsistent with poliomyelitis. Case 4 is reported in detail as a case of "fulminating poliomyelitis, with death almost a certainty." The temperature was 105.6, and yet the spinal fluid showed only 62 cells. This case and case 5 were characterized by frequent bowel movements containing blood and mucus, and were most undoubtedly those of a severe intestinal infection and, like the preceding three, are clinically inconsistent with poliomyelitis. In case 5 the proof against that diagnosis seems almost complete, as the

cells in the spinal fluid were only 25 and there was an initial chill of two hours' duration.

During the epidemic of 1916 and since that time, as consultant to the Syracuse health department, I have had a wide experience with the early diagnosis of poliomyelitis. Possibly the disease may be appearing in an unusual form throughout the West, but cases presenting hyperpyrexia of 105, delirium, severe diarrhea, and vomiting, absent or slight rigidity of the neck, and cell counts below 50 in the spinal fluid, are sharp exceptions to the usual manifestations of this disease. In the outbreak of 1924, with 133 cases in Syracuse alone, many instances occurred, often in close association with poliomyelitis, of a peculiar two or three day febrile disease with symptomatology mainly referable to the intestinal tract and quite similar to the five cases in question. These cases occasionally gave rise to confusion but were never considered as poliomyelitis, and never developed paralytic sequelae.

I am firmly convinced of the value of convalescent serum, but only if given intraspinally and in the properly diagnosed case with full clinical and spinal fluid confirmation. Furthermore, such serum is difficult to obtain and it should be conserved for the best established method of administration.

In conclusion, it appeals to this observer that the diagnosis of poliomyelitis cannot stand in any one of these five cases, and their favorable interpretation of the value of intramuscular administration of serum should be entirely discounted.

WARDNER D. AYER, M.D., Syracuse, N. Y.
Assistant Professor of Neuropathology, Syracuse University College of Medicine; Consultant in Acute Infectious Diseases of the Nervous System, Syracuse Health Department.

[NOTE.—The letter of Dr. Ayer was referred to Dr. E. C. Fleischner, who replies:]

To the Editor:—With due consideration to Dr. Ayer's experience, it hardly seems justifiable for any man to generalize as he has done in either a positive or a negative way concerning a disease the characteristic features of which are as variable as those of poliomyelitis. It would be possible, if one were willing to take the time, to quote many references to show that Dr. Ayer's generalizations are based on a large experience, but that it is not possible to draw accurate deductions in connection with this disease from the observations of any one person or even from many case histories.

In case 1, Dr. Ayer absolutely ignores the headache, the rigidity of the neck, the bilateral Kernig sign, the marked tremor and the rapid pulse, the first three of which symptoms he himself classifies as constituting "an important and almost constant triad of findings." In case 2 he doubts the diagnosis on account of the high temperature, the pronounced delirium and incontinence of feces and urine, which arguments can be quickly met by referring to the literature. He comments that "rigidity of the neck is noted, but the child was delirious," and fails to note that the rigidity of the neck persisted after the delirium had cleared up; furthermore, he ignores the headache and marked tremor. In case 3, Dr. Ayer ignores the headache, the fever, the paresthesias and the definite history of exposure. In case 4, Dr. Ayer again ignores the headache, neck rigidity and tremor, his own triad of symptoms, as well as the pain, vomiting, positive Kernig sign, positive Brudzinsky sign and abnormal reflexes, and questions the diagnosis on account of diarrhea with blood and mucus and the cell count of only 62 cells.

Were one inclined to sensitiveness, one might regret the fact that Dr. Ayer was so uncharitable as to believe that in a well regulated hospital diarrheal stools containing blood and mucus would not be investigated most thoroughly in an effort to determine the presence of intestinal infection. In case 5 Dr. Ayer again fails to comment on the presence of headache, nuchal rigidity and tremor as well as the dizziness, pain, positive Kernig sign, hyperesthesia and weakness in the left arm, and deigns to doubt the diagnosis on account of the initial chill and the cell count of 25. With reference to the question of chills at the onset of poliomyelitis one might refer Dr. Ayer to the monograph on Infantile Paralysis in Vermont, pages 49 and 64.

Since the paper was published we have had two additional cases: A nurse about 24 years of age had a temperature of 102, headache, paresthesias, nuchal rigidity, weakness of the grip in the left hand, positive Kernig sign, and increased reflexes, more marked in the left arm and leg, with a cell count of 230. She was given 90 cc. of convalescent serum thirteen hours after the onset of her symptoms, with a return of temperature to normal within twenty-four hours, with a persistence of her headache, backache, and slight nuchal rigidity for three or four days, and recovered without paralysis. A boy, aged 18 months, had been exposed to his brother, who had a frank paralysis of the arm. He was brought into the hospital fifteen hours after the onset of his illness. The essential symptoms of his condition were slight diarrhea, and rise in temperature, and on examination he showed retraction of the head, nuchal rigidity, a temperature of 101 at 5 a. m., rising to 103.6 by 10 p. m., and a cell count of 260. He likewise made a prompt recovery following the injection of convalescent serum and convalescent citrated blood. I am sure that Dr. Ayer will furthermore be interested in a series of observations that were made on twenty-four frankly paralyzed patients, in view of his attitude on the value of certain symptoms and the lack of value of certain others. The temperature was over 103 in 42 per cent; there was diarrhea and abdominal pain in 16 per cent; unconsciousness, delirium or coma in 33 per cent; chill at the onset in twelve per cent, and vomiting in 66 per cent. Twenty-nine per cent were paralyzed on the third day; 16 per cent, on the first and second day. The remainder, more than 50 per cent, after the third day. In five of these frankly paralyzed patients in whom lumbar puncture was done in the preparalytic stage, the cell counts were below 100 in every one.

Dr. Ayer ventures to suggest in his letter that "there is no comprehensive excuse for the omission of the lumbar puncture in the first three cases." That, after all, is a matter of opinion. It is not within the province of this letter to enter into a discussion as to the reasons for having omitted the lumbar puncture in these first three cases beyond the mere statement that lumbar puncture in the painful stages of poliomyelitis is an operative procedure that is worthy of definite consideration. Granted that it is harmless, one cannot lose track of the fact that unless a questionable diagnosis is to be cleared up or pressure symptoms relieved, the performance of lumbar puncture is not justifiable unless intrathecal therapy is to be used. As this was not contemplated, lumbar puncture was omitted when positive clinical diagnoses could be made. As stated in the paper, when it became evident that the results of intramuscular serum administration were striking, lumbar puncture was done for confirmation of the diagnosis so that the type of criticism which Dr. Ayer has seen fit to make might be avoided.

A survey of the literature will quickly convince the most critical that the following quotations from Dr. Ayer's communication are the opinions of an individual and do not portray the tremendous variability in the symptomatology of poliomyelitis gathered from compilations and studies of equally experienced clinicians:

1. "Poliomyelitis is characterized by a preparalytic period of fairly uniform duration of three days."
2. "Fever is seldom high, averaging 102 and rarely above 103 F."
3. There is "never delirium or coma, . . . mental clearness and alertness are striking."

4. "Vomiting and diarrhea may occur, but are rarely pronounced."

5. "With the establishment of the paralysis, the cells disappear entirely. The number of cells per cubic millimeter, in the average case and at twenty-four hours, would safely be put at 350, . . . below 100 is very unusual and might be interpreted as occurring in a very mild case or at the end of a preparalytic period."

E. C. FLEISCHNER, M.D., San Francisco.

To the Editor:—In THE JOURNAL, Dec. 19, 1925, appeared a letter from Dr. Kenelm Winslow, Seattle, taking exception to some of the statements in my letter to THE JOURNAL on the subject of human serum in the treatment of acute poliomyelitis, September 26. My reason for writing again is to call attention to the unfortunate incomplete and consequent misquotation of one sentence from my letter.

In the fourth paragraph of Dr. Winslow's letter, he quotes me as stating that "no one has ever produced infantile paralysis in monkeys." If Dr. Winslow will look once more at my letter he will see that the sentence actually reads as follows: "This serum does not neutralize a virus which is capable of producing the experimental disease in monkeys: nor has any one ever produced infantile paralysis in monkeys with any streptococcus."

It is unfortunate that Dr. Winslow permitted this misstatement to occur, because it tends to confuse rather than clarify the issue.

GEORGE DRAPER, M.D., New York.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

REDUCTION OF PROTEIN — TOTAL GLUCOSE REQUIREMENT — GLUCOSE REQUIREMENT

To the Editor:—1. How does a writer on diabetes figure that 58 per cent of protein is reduced to sugar and 46 per cent to fatty acids (some say 44 per cent)? This seems mathematically impossible. 2. Why does Woodyatt divide the total calories by 17 to get the total glucose requirement? 3. How does he figure the carbohydrate requirement 9/10 glucose-1/4 protein? (You may omit my name.) E. O. P., M.D., Indiana.

ANSWER.—1. The writer referred to does not state that 58 per cent of protein is reduced to sugar and 46 (or 44) per cent to fatty acids. The writer assumes that 100 Gm. of protein when completely catabolized may introduce into the body some 58 Gm. of glucose. The experimental evidence on which this assumption is based is as follows: When a fasting dog is completely phlorhizinized and the urine is collected by six, eight or twelve hour periods continuously and analyzed quantitatively for glucose and nitrogen, the ratio of glucose to nitrogen finally settles to virtual constancy and remains practically the same from period to period. When this constancy is established it will often be found that the ratio of glucose to nitrogen is in the neighborhood of 3.65 to 1 Gm., as held originally by Graham Lusk. The assumption is that in these conditions all the glucose and all the nitrogen are coming from one and the same source; namely, protein. Stating this relationship in plain English, it means that for each hundred grams of protein broken down, 58 Gm. of glucose appears in the urine. Thus, if the nitrogen was 1 Gm., the total amount of protein from which this 1 Gm. of nitrogen was derived would be 6.25×1, or 6.25 Gm., because the nitrogen of protein represents about 16 per cent of the total weight of protein. If, then, 1 Gm. of nitrogen appeared in the urine for a given period, this would imply that during that period some 6.25 Gm. of protein was broken down and if in that period 3.65 Gm. of glucose appeared in the urine, this 3.65 would represent 58 per cent of the total 6.25. Lusk observed that when fasting dogs which were showing this ratio consistently from period to period were fed protein in the form of flesh, the total nitrogen and the total glucose both increased, but that the ratio tended to remain the same. So, according to this experimental evidence, 100 Gm. of protein may introduce into the metabolism 58 Gm. of glucose. Our correspondent may be reminded that protein originally contains no glucose whatever. It contains, on the other hand, certain amino-acids which in the course of their metabolism drop certain groups and add others, with the result that out of 100 Gm. of protein there comes into existence in the body 58 Gm. of glucose that would not have been there otherwise. It may be remarked that when one conducts phlorhizinized dog experiments one does not always obtain a constant D to N ratio at the figure of 3.65:1. Lower ratios are also sometimes encountered, and this is particularly true when the phlorhizin experiment is carried on for a sufficient number of periods or when the action of phlorhizin is combined with the action of epinephrine in dosages sufficient to remove all glycogen from the animal. Depancreatized dogs and phlorhizinized-epinephrinized dogs very often come to a constant ratio at 2.8:1, 2.9:1 or 3.0:1 instead of 3.65:1. There is therefore some question as to whether 100 Gm. of protein does actually yield as much as 58 Gm. of glucose or whether some of the glucose which appears in the urine when the ratio is 3.65:1 may not in part be derived from some other source. However, the basis on which the writer figures that 100 Gm. of protein may introduce into the metabolism 58 Gm. of glucose (dextrose) is the observed occurrence of 3.65:1 D to N ratios in the conditions specified.

Concerning the 46 per cent of fatty acids, it may be said that protein contains none of the higher fatty acids to begin with, nor does it in the course of its metabolism yield any higher fatty acids whatever. Protein in the course of its digestion in the alimentary tract yields a medley of amino-acids, and certain of these amino-acids when metabolized in the body are capable of yielding acetoacetic or beta-hydroxybutyric acid. One molecule of a certain amino-acid, such as tyrosine, leucine or phenylalanine, has been shown to be capable of yielding one molecule of acetoacetic or beta-hydroxybutyric acid. Now, one molecule of a higher fatty acid, such as palmitic or stearic acid, is also capable in the course of its oxidation in the body of yielding one molecule of acetoacetic or beta-hydroxybutyric acid. Therefore, in respect of its power to yield acetoacetic or beta-hydroxybutyric acid, one molecule of one of the amino-acids in question is the equivalent of one molecule of higher fatty acids. The quantities of these amino-acids found by analyses in muscle protein by Osborn form the basis for the proposition that protein in the course of its catabolism is capable of liberating as much acetoacetic or beta-hydroxybutyric acid as though it contained 46 per cent of its weight in higher fatty acids. In other words, 100 Gm. of protein is equivalent in ketogenic power to 46 Gm. of higher fatty acids. The equation is intended to express this relationship and not the content of higher fatty acids in protein nor the amount of higher fatty acids produced in the body by the catabolism of protein. As stated above, protein neither contains nor introduces into the body any higher fatty acid in the course of its catabolism.

2. Woodyatt observed that when patients were on diets of such caloric magnitude that in the course of the day all the carbohydrate protein and fat of the diet was catabolized and that no carbohydrate protein or fat was stored and no tissue carbohydrate, protein or fat broken down in addition to that which was given in the diet, then acetone was observed to make its first appearance in the urine in supernormal quantities when the diet was so balanced that the ratio of fatty acids (and ketogenic equivalents) to glucose was in the neighborhood of 1.5:1. The fatty acid to glucose ratio of 1.5:1 implies a mixture of carbohydrate protein and fat in which the fat equals approximately twice the carbohydrate plus half the protein. That is to say, when the fat of a food mixture equals twice the carbohydrate plus half the protein in the same mixture, the fatty acid to glucose ratio, if figured out, will be found to be a little lower than 1.5:1. Diets in which the fat equals twice the carbohydrate, plus half the protein, yield for the average adult the largest amount of ketogenic acids and the lowest amount of glucose compatible with freedom from acetonuria, provided of course that the diet is a maintenance diet, etc. Food mixtures that contain carbohydrate, protein and fat in such proportion that the fat equals twice the carbohydrate plus half the protein are capable of yielding 17 calories per gram of glucose. For example, take 20 Gm. of carbohydrate, 20 Gm. of protein, and 50 Gm. of fat. It will be seen that twice the carbohydrate is 40, and half the protein 10, and that $40 + 10$ is 50, so that the fat equals twice the carbohydrate plus half the protein. Now, such a mixture will yield in calories 4×20, or 80, $+ 4 \times 20$, or 80, $+ 9 \times 50$, or 450; total, 610 calories. If the glucose yielding power of this mixture is estimated as equal to all the carbohydrate plus 0.58 times the protein plus 0.1 times

the fat, it will be found to be 20 + 11.6 + 5; total, 36.6 Gm. of glucose. Dividing the calories, 610 by 36.6 gives in round numbers 17. Woodyatt did not maintain that every diabetic diet should necessarily be so balanced that the ratio of fatty acids to glucose should be 1.5:1 in practical therapeutics. He stated that for an average person on a maintenance diet this was about as high as the ratio could be without causing acetonuria, and that maintenance diets in which the ratio of fatty acids to glucose was 1.5:1 were "optimal" in the sense that they introduced into the body the largest number of calories for the smallest number of grams of glucose compatible with freedom from abnormal acetonuria. Whether or not the feeding of diets capable of causing acetonuria continuously is desirable or not is a question to be decided on the basis of practical experience rather than on the basis of any theory. As a matter of fact, diets of maintenance magnitude for patients at work which contain fat in excess of twice the carbohydrate plus half the protein will usually be found unpractical in this country for the simple reason that such diets make menus difficult to execute. Eskimos or people living in Scandinavian countries may relish diets containing fat in larger proportions than this equation calls for, but in the United States comparatively few people will long submit without complaint to diets in which the fat is run up so high. Another practical point to consider in this connection is the possibility that when persons are on full diets containing higher percentages of fat than this, the occurrence of any cold, accident, or intercurrent illness may throw them into a dangerous degree of acidosis more abruptly than would be the case with diets lower in fat. It may be recalled that ordinary cow's milk contains carbohydrate, protein and fat in the proportion of 5, 3 and 3. Twice the carbohydrate plus half the protein would be 11½. So milk, the natural food of the child, has an FA:G ratio far below 1.5:1.

3. This question is probably based on a misunderstanding. There is no specifiable glucose requirement for all individual cases.

THE RECORDING OF NEAR VISION

To the Editor:—A man, aged 50, has 20/20 vision in each eye. At the near point he reads print marked D = 1.50; on the near test type he accepts + 2.00 sphere for his reading lenses. How would I record his near vision on the examination blanks with and without lenses? (Kindly omit my name.)

M.D., Nebraska.

ANSWER.—Near vision is usually recorded in terms of the Jaeger reading chart. The reading type that is marked 0.50 D equals Jaeger 1; 0.75 D, Jaeger 2; 1.00 D, Jaeger 3; 1.25 D, Jaeger 4; 1.50 D, Jaeger 5; 2.00 D, Jaeger 6. Hence, the record of this patient should read:

R. V. = 20/20. Jg. 5. Add + 2.00 sph. = Jg. 1
L. V. = 20/20. Jg. 5. Add + 2.00 sph. = Jg. 1.

However, the endeavor is being made by the Committee on Compensation for Eye Injuries, appointed by the Section on Ophthalmology of the American Medical Association, to record near vision on the same basis as far vision. The distance for near vision is accepted as 14 inches, exactly as the distance for far vision is accepted as 20 feet. The committee is publishing a test type chart for near vision in which the record will be made in ratios of 14, exactly as far vision is recorded on ratios of 20. So near vision will eventually be recorded as 14/14, 14/21, 14/35, etc., there being the same angular variation on the retina for the various sized types as there is for the various sized Snellen charts for far vision.

RESTRICTIONS ON SALE OF BARBITAL

To the Editor:—We are at this time having a flurry in this city on the subject of veronal, which has been promoted to some extent by the newspapers, which are giving publicity to the alleged bad effects of this drug. Various cases have been used as examples in the public press which are so different in their nature from the supposed action of veronal that public opinion is becoming more or less influenced against it. Stories of "veronal addicts" becoming raving mad, tearing their clothes from their bodies, pleading for the sake of humanity to be chained up or anything done to them that will take away the craving of the horrible drug are becoming quite popular, and there is serious talk of legislation to prohibit the sale of veronal. It is believed that to restrict veronal is a somewhat foolish procedure, and in order that some data may be had concerning its properties and effects, I would be thankful if you will furnish me with any information that you may have on this subject. I am particularly interested in veronal antidotes, the action of the drug in connection with whisky or when taken in connection with morphin, heroin, cannabis indica, opium or any of the opium derivatives.

H. R. B., Knoxville, Tenn.

ANSWER.—We have been unable to find any record of the regulation by law, in the United States, of the sale of barbital. The advisability of such regulation was discussed in an editorial in the *British Medical Journal*, Jan. 17, 1925, and reproduced in THE JOURNAL, Feb. 7, 1925, pages 465-466. The promiscuous sale of barbital (veronal) and derivatives is prohibited in Germany (Austr. Roy. Com. Rep. 1:454). In England its sale is somewhat restricted by being placed in the poison schedule, and the British home secretary is considering further restrictions. While no laws against the sale of barbital have been passed in the United States, the New York Sanitary Code prohibits the sale of barbital and derivatives without a prescription. The following appears in Useful Drugs: "Many cases of poisoning, some fatal, occur from its indiscriminate use by the laity."

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALASKA: Juneau, March 2. Sec., Dr. Harry C. De Vighne, Juneau.
CALIFORNIA: Los Angeles, March 8-11. Sec., Dr. Charles B. Pinkham, Room 906, Forum Bldg., Sacramento.
CONNECTICUT: Basic Science Board, New Haven, Feb. 13. Chairman, Mr. Charles M. Bakewell, Box 1895, Yale Station, New Haven. Regular Board, Hartford, March 9-10. Sec., Dr. Robert L. Rowley, 79 Elm St., Hartford. Homeo. Board, New Haven, March 9. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven.
KANSAS: Topeka, Feb. 9. Sec., Dr. Albert S. Ross, Sabetha.
MAINE: Portland, March 9-10. Sec., Dr. Adam P. Leighton, Jr., 192 State St., Portland.
MASSACHUSETTS: Boston, March 9-11. Sec., Dr. Frank M. Vaughan, 144 State House, Boston.
NATIONAL BOARD OF MEDICAL EXAMINERS: Part I, Feb. 10-12; Part II, Feb. 11-12, in Class A Medical Schools. All applications must be received on or before Jan. 15. Sec., Dr. J. S. Rodman, 1600 Walnut St., Philadelphia.
NEW HAMPSHIRE: Concord, March 11-12. Sec., Dr. Charles Duncan, Concord.
NEW YORK: Albany, Buffalo, New York, Syracuse, Jan. 25-28. Chief, Mr. Herbert J. Hamilton, Department of Education, Albany.
OKLAHOMA: Oklahoma City, March 9-10. Sec., Dr. J. M. Byrum, Shawnee.
PENNSYLVANIA: Philadelphia, Jan. 26-30. Act. Sec., Mr. C. D. Koch, Harrisburg.
PHILIPPINE ISLANDS: Manila, Feb. 9. Sec., Dr. Jose V. Gloria, 686 Rizal Ave., Manila.
PORTO RICO: San Juan, March 2. Sec., Dr. D. Biascoechea, Box 804, San Juan.
VERMONT: Burlington, Feb. 9-11. Sec., Dr. W. Scott Nay, Underhill.
WYOMING: Cheyenne, Feb. 1-3. Sec., Dr. G. M. Anderson, Cheyenne.

Washington September Reciprocity Meeting

Mr. William Melville, director, Department of Licenses, State of Washington, reports that 31 candidates were licensed by reciprocity at a meeting held at Olympia, Sept. 28, 1925. The following colleges were represented:

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Chicago College of Medicine and Surgery		(1916)	Oklahoma
College of Phys. and Surgs., Chicago	(1891) Oregon,	(1902)	Missouri
Northwestern University Medical School	(1924),	(1925)	Illinois
Keokuk Medical College, Coll. of Phys. and Surgs.		(1908)	Iowa
State University of Iowa College of Medicine		(1922)	Iowa
University of Louisville School of Medicine		(1907)	Kansas
	Kentucky, (1908) Montana, (1921) Idaho		
Tulane University of Louisiana School of Medicine		(1919)	Mississippi
Baltimore Medical College		(1903)	Montana
Harvard University		(1908)	Nebraska
University of Michigan Medical School		(1906)	Montana
University of Minnesota Medical School		(1924)	Minnesota
St. Louis College of Physicians and Surgeons		(1923)	Colorado
St. Louis University School of Medicine	(1906),	(1912)	Missouri
	(1924) Wisconsin		
Washington University School of Medicine		(1911)	Illinois
John A. Creighton Medical College		(1921)	Nebraska
Lincoln Medical College, Lincoln		(1916)	Nebraska
University of Nebraska College of Medicine		(1921)	Nebraska
Medical College of Ohio, Cincinnati		(1889)	Montana
University of Oregon Med. School	(1923) Illinois,	(1924)	Oregon
University of Pennsylvania School of Medicine		(1915)	California
University of Pittsburgh School of Medicine		(1901)	Penna.
Lincoln Memorial University Med. Dept., Knoxville		(1913)	Tennessee
Baylor University College of Medicine		(1913)	Oregon

Colorado October Examination

Dr. David A. Strickler, secretary of the Colorado Board of Medical Examiners, reports the written examination held at Denver, Oct. 6, 1925. The examination covered 8 subjects and included 80 questions. An average of 75 per cent was required to pass. Of the 11 candidates who took the physicians' and surgeons' examination, 7, including 1 undergradu-

ate and 1 osteopath, passed, and 4 failed. Twenty-two candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent
Eclectic Medical University, Kansas City		(1918)	75
Kansas City University of Physicians and Surgeons		(1925)	79.5
St. Louis University School of Medicine		(1925)	86.4
Jefferson Medical College of Philadelphia		(1923)	90
University of Toronto Faculty of Medicine		(1922)	86.5
Undergraduate			78.8
Osteopath			81.4

College	FAILED	Year Grad.	Per Cent
St. Louis College of Physicians and Surgeons (1923) 65.4, (1924) 64, (1925) 62.9		(1922)	66.4,

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
College of Medical Evangelists		(1924)	California
College of Physicians and Surgeons, Chicago		(1905)	Illinois
Hahnemann Medical College and Hospital, Chicago		(1899)	Illinois
Northwestern University Medical School		(1924)	Illinois
Rush Medical College		(1886)	Wisconsin
Indiana University School of Medicine		(1912)	Indiana
Keokuk Medical College, Coll. of Phys. and Surgs.		(1903)	Iowa
Hospital College of Medicine, Louisville		(1900)	Indiana
Harvard University		(1919)	Mass.
University of Minnesota Medical School		(1921)	Minnesota
Missouri Medical College		(1882)	Missouri
University Medical College of Kansas City		(1900)	Oklahoma
University of Nebraska College of Med.		(1914), (1924, 2)	Nebraska
Eclectic Medical College, Cincinnati		(1896)	Illinois
University of Cincinnati College of Medicine		(1924)	Ohio
Meharry Medical College		(1908)	Georgia
University of Tennessee College of Medicine		(1913)	Tennessee
Vanderbilt University School of Medicine		(1912)	Tennessee
Medical College of Virginia		(1904)	Virginia
University of Virginia Department of Medicine		(1920)	Louisiana

Book Notices

OTOLOGIC SURGERY. By Samuel J. Kopetzky, M.D., F.A.C.S., Professor of Otology, Polyclinic Medical School and Hospital, New York. Cloth. Price, $8. Pp. 539, with 127 illustrations. New York: Paul B. Hoeber, Inc., 1925.

This book opens with a detailed classification of middle ear diseases based on their pathogenesis. The term "catarrh, having the sanction of usage, is retained; it is simply the name given to a series of physical and mechanical processes that occur in the middle ear and find their origin in factors situated elsewhere than in the tympanic cavity." The pathologic findings in mastoiditis are well described and illustrated with photomicrographs. In the second chapter, operative procedure in the external auditory canal is discussed. Chapter III deals with the incision of the membrana tympani (paracentesis). The author condemns the use of suction after paracentesis. In chapter IV the operations on the middle ear by way of the external auditory meatus are considered. Ossiculectomy and the indications are discussed in detail, and likewise the removal of aural polyps. The simple mastoid operation is considered in chapter V. In chapter VI, the radical mastoid operation is discussed. Several operations are described which have for their purpose the closure of persistent postauricular openings. In chapter VII is found surgery of the labyrinth, together with the classification of purulent labyrinthitis. Various vestibular tests are described and discussed. Among the operations on the labyrinth described in this chapter are those of Richards, Hinsberg and Naumann. Chapter VIII deals with otogenous systemic infections, including sinus thrombosis. There is a complete discussion of the indications for jugular ligation and resection. Tobey and Aver's test for determining the presence or absence of thrombosis of the lateral sinus by means of changes in the manometric pressure of the spinal fluid when one or both internal jugulars are compressed is not given. This is no doubt due to the fact that this test appeared about May, 1925, and at this time, the manuscript of the book had no doubt been completed. Surgery of the meninges is considered in chapter IX, and the Haynes-Kopetzky operation and Eagleton's irrigation described. Surgery of otitic brain abscesses is found in chapter X. In chapter XI the laboratory aids to otologic diagnosis are given, and especial attention is called to the relation between the white blood count and the percentage of polymorphonuclears. Many interesting and valuable cases illustrating points in the text are given in the concluding chapter. The book is well written; with each subject a good historical review of the development is presented, and at the end of each chapter a complete bibliography is included. The subjects are presented in a logical way, with a great deal of attention given to pathology. The book is a valuable addition to otologic literature and should prove popular among otologists.

PNEUMONIA, ITS PATHOLOGY, DIAGNOSIS, PROGNOSIS AND TREATMENT. By the late R. Murray Leslie, M.A., B.Sc., M.D. Edited by J. Browning Alexander, M.D., M.R.C.P. Physician with charge of outpatients, City of London Hospital for Diseases of the Chest. Cloth. Price, 12 shillings 6 pence net. Pp. 351. London: William Heinemann, Ltd., 1924.

This is an interesting and readable book for one who wishes to review the subject of pneumonia. Many facts both clinical and experimental, including most of the important ones, are brought together in this single volume, which is light, well printed, and easy to read. The author presents the subject of typical lobar pneumonia, discussing the etiology, pathology, symptomatology and treatment in adequate detail to cover the subjects, following which he takes up the less classic forms, such as bronchopneumonia, influenzal pneumonia, pneumonia in children, and postoperative pneumonia, in less detail. The final chapters deal with specific vaccine and serum therapy. It is interesting to note that while the author and the editor are English, the facts regarding experimental work on pneumonia have been drawn almost exclusively from American sources. The reports of the Rockefeller Foundation are made use of freely in this regard, and it is evident that Leslie was much influenced by their conclusions regarding the practical value of typing the pneumococcus in any specific case, and treating the case with specific pneumococcus serum. Furthermore, he seems to have had considerable faith in the value of specific vaccine, or even stock vaccine, in the treatment of pneumonia, in this regard being influenced greatly by the work of Sir Almroth Wright. Undoubtedly he shared with most of the medical world of the time a hope that such treatment would prove efficacious. However, since his death the faith in serum and vaccine treatment has somewhat subsided, and the editor has had to revise the original manuscript to conform to a more moderate view as to the value of these agents.

DES KINDES ERNÄHRUNG, ERNÄHRUNGSSTÖRUNGEN UND ERNÄHRUNGSTHERAPIE. Ein Handbuch für Aerzte. II. Band, I. Teil. Von Professor Ad. Czerny und Professor A. Keller. Second Edition. Paper. Price, 18 marks. Pp. 368. Leipsic: Franz Deuticke, 1925.

This volume contains the authors' classification of the nutritional diseases of infancy. They retain their original division into three groups; namely, nutritional disturbances of alimentary origin, nutritional disturbances due to infection, and nutritional disturbances due to defects in the constitution and in the structure of the body. In addition to the well known food injuries that the authors have previously described, such as those produced by milk, fat and starch, they now consider in some detail the protein injuries. They believe that in weakly or premature infants it is possible to give protein in excess, i. e., to give an amount of protein that exceeds the nutritional requirements of the infant, and that nutritional disturbances are observed in such cases. On the other hand they recognize that in some instances infants, particularly those that are ill, receive too little protein. This occurs particularly in infants that are receiving greatly diluted milk. The authors consider also infantile scurvy and scurvy of older children. They relate that in Berlin in 1901 and 1902 there was a marked increase in infantile scurvy and that this increase occurred concomitantly with the introduction of pasteurization in one of the largest dairies of the city. In most instances the pasteurized milk was reboiled when it came into the home, and the authors think that this was significant in the production of infantile scurvy. There was a striking increase in the disease during 1917 and 1918, and this they thought was caused by the deficiency in fresh vegetables and the poor quality of the milk. A number of factors contributed to the deficiency of vitamins in the milk. The

cattle were being fed on fodder that contained little of the accessory food substances. The milk was being obtained under insanitary conditions, and hydrogen peroxid or alkalis were being added to the milk. Peroxids and alkalis tend to decrease the vitamin content and predispose the infant fed on milk containing them to scurvy. Keratomalacia is considered in some detail, and the entire literature of the subject is reviewed. The abnormal fragility of bones or osteopsathyrosis is considered, with particular relation to the diet. A chapter is devoted to the milk disturbances in breast-fed infants. Overfeeding at the breast is considered, and it is pointed out that the baby who is nursing reasonably well receives the greater portion of his meal during the first ten minutes. To place a baby on artificial feeding because the breast milk is disagreeing with him is considered unwise, for experience teaches that in most instances in which the breast milk disagrees, artificial food will be equally unsuccessful. Occasionally artificial food seems to agree better than breast milk, but those who favor the substitution of artificial for natural food, base their opinions on apparent results in the bottle-fed baby. The stools have a better consistency, and the babies increase more in weight. But these clinicians do not take into consideration the development of the static functions, the immunity against infection and the general developmental condition. The book contains a mine of information and reflects a critical search of the literature and the vast experience of the authors. Detailed chapters are written on the alimentary toxicoses, enteral infections and parenteral infections. A considerable space is devoted to a review of the pathologic examination of the alimentary tract of children who have died of nutritional disturbances during the first year. Briefly summarizing, the authors say that the present view of pathologic-anatomic lesions in the nutritional disturbances of infants is that the changes are functional in character. Only rarely do anatomic lesions occur, and these are usually due to some complication. For those who are interested in the feeding, nutrition and alimentary disorders of infancy and childhood, these volumes of Czerny and Keller are invaluable; they deserve the thoughtful consideration of teachers and practitioners.

SCIENTIFIC NUTRITION IN INFANCY AND EARLY CHILDHOOD. For the Student and General Practitioner. By Stafford McLean, M.D., Associate in Diseases of Children, College of Physicians and Surgeons, Columbia University, and Helen L. Fales, B.S. Cloth. Price, $3.75. Pp. 404. Philadelphia: Lea & Febiger, 1925.

Clinical and laboratory points of view represented by the authors have combined to give a clear and logical exposition of the subject. The control conscience is illustrated in their insistence on the fundamental considerations of food requirements, qualitative and quantitative, together with normal digestion and breast feeding. On the basis of this norm, the discussion of artificial feeding follows with explanations for the indications and uses of the various preparations. In this manner are considered top, skimmed, concentrated, dried, acid and protein milks, thick feedings, butter flour mixtures and proprietary foods. The diet of later infancy and early childhood is given in detail. The experience of the authors and the practical application of the book are indicated by the title of a subdivision in the chapter on stools, "Misleading Information Derived From Unrelated Stool Examinations." Deviations from the normal nutritional state are discussed from the standpoints of disturbances of the digestive tract and other conditions associated with disturbed nutrition. There is offered a simple classification of digestive tract disturbances. Associated with disturbed nutrition are considered marasmus, premature and debilitated infants, rickets, hypertrophic pyloric stenosis and nervous children. Especially useful for the nutritional worker are appended recipes, tables of composition and values of foods and tables for calculating the values of diets. The work should prove useful to all concerned in the supervision of infancy and childhood, the nutritional worker, dietitian, general practitioner and specialist. To the specialist it will appeal best as a concise and scientific summary coupled with personal views and observations of experienced observers. Like the recent series of simple expositions of world history, literature and art, this book is written at the beginner to be read by the mature.

Medicolegal

Care Required for Delirious or Irrational Patients

(Fetzer v. Aberdeen Clinic et al. (S. D.), 204 N. W. R. 364)

The Supreme Court of South Dakota, in affirming a judgment for the defendants, says that they were the Aberdeen Clinic, which was an association of physicians and surgeons who patronized a certain hospital; the Clinic Building Corporation, which owned and operated the hospital; and a physician who was a member of the Aberdeen Clinic and a stockholder and officer of the Clinic Building Corporation. The physician sent the plaintiff to the hospital and performed an appendectomy on him. The plaintiff's action was to recover damages for injuries which he sustained by having fallen or jumped from the window of a room on the third floor of the hospital, on the morning of the sixth day after the operation.

The jury was instructed to the effect that the degree of care and diligence required is measured both by the mental incapacity of the patient and by the dangers which the surroundings indicate may befall such a patient in view of any peculiar mental traits exhibited by the patient. This is always limited by the unbending rule that no one is required to guard against or take measures to avert that which a reasonable person under the circumstances would not anticipate as likely to happen. These circumstances include the patient's mental condition and aberrations and what he is likely to do by reason thereof. That a patient may be delirious or not in control of his mental faculties is not sufficient to put the defendant, its agents, servants or employees, on their guard to prevent self-inflicted injury. It is only when they have notice of conduct or language on the part of the patient evidencing an hallucination or a purpose to inflict such injuries, and in this case, unless the defendants, their agents, servants and employees had notice or knowledge of conduct or condition of mind on the part of the plaintiff which indicated that he intended self-injury or self-destruction, or intention to escape from the building, he could not recover in this action. While there are decisions affirming judgments for damages on claims somewhat similar to the case at bar, and other decisions denying liability in cases varying but little therefrom, there seems to be no material divergence from the rule laid down in this instruction.

It is evident that in this case, and in all similar cases, the injuries complained of are directly due to the acts of the person suffering the injuries. Under the general rule of law, the contributory negligence of the injured person would bar any recovery on his part or on the part of his representatives. It is only on the theory that the incapacity of the person injured removes his case from the general rule that any recovery can be had. Evidently, then, the burden is clearly on those seeking to be relieved from this general rule to show such incapacity, and notice thereof to those sought to be charged. And it is further evident that this notice of the condition of the patient must be such as to give those sought to be charged reason to believe that his doing injury to himself may be anticipated. To hold hospitals, nurses or physicians responsible for injuries which patients may inflict on themselves, unless the patients have given evidences of the probable danger of such infliction of injury, would be a harsh rule.

The defendant physician as an officer, member of the surgical staff, or employee of the Clinic Building Corporation, which owned and operated the hospital, would not be liable personally, but any negligence on his part in such capacity might be imputed to his principal, the corporation. Still he would be personally liable for any negligence in performing any of the duties that he owed to the plaintiff as his personal physician and surgeon.

The defendant physician was allowed to testify that, when he examined the plaintiff shortly before the accident, there was nothing in the plaintiff's conversation, appearance or demeanor that from the witness's knowledge and judgment as

a physician would cause him to anticipate that the patient would attempt to do himself harm, or that, in the witness's experience or judgment, would require or reasonably need any care or treatment other than that he was receiving. These items of testimony were objected to as conclusions, and as invading the province of the jury. They were conclusions, but the witness was being sued as a physician required to furnish the skill, knowledge and care usually exercised by physicians and surgeons. He was qualified to testify as a medical expert, and as such had the same right to testify as to his conclusions that any other expert would have. There was no error in admitting this evidence. The jury, of course, had the right to weigh his evidence as it would that of any other witness, taking into consideration also his interest in the suit.

Death from Dementia Paralytica Result of Syphilis

(Rodgers v. National Life & Accident Ins. Co. (Mo.), 272 S. W. R. 1052)

The St. Louis (Mo.) Court of Appeals holds that, since the insurance policy issued by the defendant on which it was sued in this case provided that no benefits should be paid for sickness or death "resulting from venereal diseases," it was error for the trial court to refuse to instruct the jury that if it found and believed from the evidence that the insured died from dementia paralytica, and that the disease was caused from syphilis, and that syphilis is a venereal disease, then its verdict should be for the defendant. The court of appeals says that the plaintiff contended that the provision of the policy referred to did not exempt the company when the insured died from a disease caused by a prohibited disease; that, if the requested instruction was correct, the defendant would be exempt from liability for a death caused by a disease if the disease was in turn caused remotely or proximately by syphilis. But to give the policy such a construction as the plaintiff contended for would be an injustice, and would be in violation of its plain and positive terms. There was evidence in the record that the insured died from dementia paralytica, and that such a condition or disease is caused exclusively by syphilis, and that syphilis is a venereal disease. Under such a state of facts, if they be true, the defendant was not liable, under the plain terms and provisions of the policy.

Physician as Witness After Treating Man in Jail

(State v. Moore (N. D.), 204 N. W. R. 341)

The Supreme Court of North Dakota, in reversing a judgment of conviction of rape on the ground of error in the admission in evidence of the testimony of a physician as to the result of an examination which he made of the defendant in jail, says the sheriff had received rumors to the effect that the defendant was afflicted with a venereal disease. Accordingly, the sheriff called the physician to examine the man in order that, if the latter was so affected, he might protect himself as well as the prisoners. The physician testified that he went there for the purpose of treating the man professionally if he was infected, and that he told the man that his understanding of the law was that, if he made the examination, he could not divulge the knowledge that he gained. He subsequently treated the man. The state sought to justify the admission of the physician's evidence on the ground that the physician was not called for the purpose of treating the defendant, but for the purpose of protecting the sheriff and those under his charge against contagious diseases pursuant to a power possessed by him under state health regulations; that the defendant voluntarily consented to the examination; and that, in any event, the testimony received did not show that the defendant was entitled to the statutory exemptions concerning a privileged communication, for the prime reason that the testimony concerned was not obtained in order to enable the physician to prescribe or act for the defendant as his patient, and for the secondary reason that the statute of that state which provides that a physician or surgeon cannot, without the consent of his patient, be examined as to any information acquired in attending the patient which was necessary to enable him to prescribe or act for the patient, is not applicable in criminal actions. However, the supreme court (divided three to two) is of the opinion that the trial court erred in receiving the physician's testimony concerning the defendant's examination, made while he was in custody, and that the state's position on the record could not be justified. The record was insufficient to justify any inference that the defendant voluntarily consented to his examination so as to waive the protection of the statute. The physician's testimony, taken in connection with the sheriff's, disclosed that the physician attended the defendant as his patient, and, from information gained by his examination, he thereafter prescribed and acted for the defendant as his patient. The physician's statements to the defendant served to indicate to him that the consultation would be of a professional character. The situation was not similar to that of a case in which a physician was called to examine a defendant while in custody and the latter was told that the physician had been sent by the prosecuting attorney for the specific purpose of examination, nor to a situation in which a physician testifies concerning an admission made by a defendant in a nonprofessional transaction or occurrence. It will serve no useful purpose to consider the beneficent or harmful results of the statute in either protecting the rights of liberty or inhibiting proofs of crime. The statute is mandatory in its character. It is the duty of courts to apply this statute when facts evidence themselves to justify its application.

Answers as to Medical Consultations and Treatment

(Shaughnessy v. New York Life Ins. Co. (Minn.), 203 N. W. R. 600)

The Supreme Court of Minnesota holds that it is the duty of an applicant for life insurance to give truthful answers to questions relative to medical consultations and treatment. Such matters are material to the risk, and, if the answers are false, the policy may be voided. But the rule does not require the disclosure of consultations or treatment for slight or temporary ailments. When a misrepresentation materially affecting the risk is made, it is unimportant whether it was accompanied by an intent to deceive, for, under the Minnesota statute, a recovery on the policy is barred, although no fraud or deception was practiced or intended. To attribute to the insurer information given to a soliciting agent, the information must have been imparted to the agent in the course of his agency. Inquiries respecting the health of the applicant, his previous or existing ailments, and consultations and attendance by physicians, are beyond the scope of the functions of an agent who merely solicits insurance; they pertain to matters dealt with by the medical examiner. For this reason, the knowledge which a soliciting agent may have possessed concerning these matters is not attributable to the insurance company.

Injured Employee Selecting Physician and Hospital

(Indiana Liberty Mut. Ins. Co. et al. v. Strate (Ind.), 148 N. E. R. 425)

The Appellate Court of Indiana, division no. 1, says that Strate, an injured employee who was a claimant for compensation under the workmen's compensation act, was removed to Indianapolis in order that he might have the medical and surgical treatment of a specialist. There was evidence tending to prove that prior to such removal it was agreed between him and the insurance carrier that at Indianapolis he should have the services of a specialist who had been recommended by his local physician, and that he agreed to the removal with that understanding, whereas on his arrival in Indianapolis a representative of the insurance carrier informed him that he was to be taken to a certain hospital and there examined and treated by a different physician. Dissatisfied with that arrangement, within an hour after being taken to the hospital, and before examination there by the insurance carrier's physician, he, on his own account, employed the specialist he desired, to take sole charge of his case, and caused himself to be transferred to another hospital, where he was thereafter treated by that specialist.

On account of the man's refusal to accept the services of the physician and the hospital tendered, the insurance carrier refused on behalf of itself and the employer to make further

payments of compensation, it being contended that as he had refused to submit himself to examination by the physician, and had refused to accept the hospital services tendered, the case came within the provision of the workmen's compensation act suspending the right of compensation pending the refusal on the part of an injured employee to submit to examination by a physician designated by the employer. But under the provision referred to the employee is not required to submit to an examination at any time or place designated by the employer. The requirement is "at reasonable times and places." Indianapolis was 130 miles from the place of the man's residence. Whether, under the facts of this case, Indianapolis was a reasonable place for the examination of the injured employee by the insurance carrier's physician would have been a question of fact for the industrial board. Furthermore, under the statute, the right to compensation is suspended "unless in the opinion of the industrial board the circumstances justify the refusal." Under the circumstances shown by the evidence, the justification of the refusal to submit to the examination was a question of fact for the industrial board, and it found that the refusal was justified, which finding was sustained by competent evidence.

However, the medical and surgical treatment received by the man at Indianapolis was not within the first thirty days after he had received the injury, nor was the treatment or hospital service ordered by the industrial board. He employed the specialist who treated him, and it was he who contracted for the hospital service pending such treatment, the services of the other physician and hospital facilities previously tendered by the employer and the insurance carrier having been refused. This court holds that, under the circumstances, the account of the specialist for his services, and the account for hospital accommodations and service at Indianapolis, were the personal obligations of the injured employee. It followed that the industrial board erred in ordering payment of these by the employer.

Mental Incompetence and Guardianship

(In re Keiser (Neb.), 204 N. W. R. 394)

The Supreme Court of Nebraska, in reviewing the appointment of a guardian of the person and estate of an alleged incompetent 79 years of age, says that old age and failure of memory do not, of themselves, establish incompetence to care for ordinary business affairs. The fact that a man is 79 years old, and, by reason of his feeble condition, has not sufficient strength of mind to manage his business with ordinary care and prudence, does not warrant the appointment of a guardian under the provisions of section 1590 of the compiled statutes of Nebraska of 1922, which provides for the appointment of a guardian of the property for a person of unsound mind. No set rule can be enunciated which will be a safe criterion in all cases. It is not sufficient that incompetence alone is established, for it may well be, even where incompetence exists, that the situation and surroundings of the incompetent are such that no necessity exists for the appointment of a guardian, and that no good purpose would be served thereby. The incapacity of a person, which, within the statute, will authorize the appointment of a guardian, is a question of fact in each case for the trial court, whose findings thereon will not ordinarily be disturbed. While the scope of the examination rests in the sound discretion of the court, the examination should be limited to inquiries which have for their object the finding and determination of the mental condition of the subject of the inquiry.

The descriptive words, "mentally incompetent," "incompetent," and "incapable," as used in sections 1589 and 1590 of the compiled statutes, mean any one who, though not insane, is, by reason of old age, disease, weakness of mind, or from any other cause or causes, unable or incapable, unassisted, of properly taking care of himself or managing his property, and by reason thereof would be liable to be deceived or imposed on by artful or designing persons. Mental incompetence or incapacity is established when there is found to exist an essential privation of reasoning faculties, or when a person is incapable of understanding and acting with discretion in the ordinary affairs of life. When a person has insufficient mental capacity for the just protection of his property, and his mental condition is such that he is guided by the will of others instead of his own in its disposition, a guardian should be appointed. In a proceeding for the appointment of a guardian for alleged incompetence because incapable of caring for his property, when the person is a party to the proceeding and has not been adjudged insane, his admissions, declarations and showing of facts inconsistent with mental soundness are admissible as substantive evidence on the issue of sanity.

"Sanity" and "competence to manage an estate" are not synonymous terms. A man may be sane in the sense that it is not necessary to incarcerate him in an asylum and yet be incompetent to manage an estate even though he is not a spendthrift or a drunkard.

Society Proceedings

COMING MEETINGS

American College of Physicians, Detroit, Feb. 22-29. Dr. Frank Smithies, 920 N. Michigan Ave., Chicago, Secretary.

American Congress on Internal Medicine, Detroit-Ann Arbor, Feb. 22-29. Dr. Frank Smithies, 920 N. Michigan Ave., Chicago, Secretary.

SOUTHERN SURGICAL ASSOCIATION

Thirty-Eighth Annual Meeting, held at Louisville, Ky., Dec. 15-17, 1925

The President, DR. IRVIN ABELL, Louisville, Ky., in the Chair

Sinus Pericranii, Stromeyer

DR. ISIDORE COHN, New Orleans: Sinus pericranii, as described by Stromeyer in 1850, included both congenital and acquired lesions. The clinical picture is the same in the two types—a soft, fluctuating, slow growing vascular tumor of the scalp, which communicates directly with an intracranial sinus through an anomalous opening of congenital or acquired origin. These tumors, as a rule, are not evident when the patient is erect. They become prominent on coughing, sneezing, compression of the jugular or any act which increases intracranial pressure, or which interferes with venous return from the skull. The tumor mass is reducible into the skull. A bony defect is evident on palpation. The roentgen ray is invaluable as a diagnostic measure for the anomalous communication is demonstrated beyond question. The endothelial lining of the walls of a tumor differentiates the congenital from the acquired type, which has a connective tissue lining. Surgery is the only rational means of cure.

Mercurochrome-220 Soluble

DR. HUGH H. TROUT, Roanoke, Va.: Given a patient with a positive blood stream infection, in whom all possible foci have been removed, mercurochrome-220 soluble is worth a trial. It gives us one more thing to do in these otherwise hopeless cases, and proves of comfort to the family, if not of benefit to the patient. I do not believe that all the claims made for it as a blood stream sterilizer are as yet proved, and mercurochrome, like any other substance, should not be viewed unadvisedly or lightly.

Torula Infection in Man

DRS. J. L. MCGEHEE and I. D. MICHELSON, Memphis, Tenn.: Ours is the first case reported in which a torula has been isolated from a negro. A negress, aged 26, admitted to the hospital, Dec. 8, 1924, complained of pain and swelling in the left groin. The onset of the illness was in August, 1924, with a vaginal discharge and dull, aching, pain in the left lower quadrant of the abdomen, radiating down the left leg to the knee, and increased by movement. Sixteen days previous to her admission to the hospital, an intensely painful swelling appeared in the left groin. The patient was confined to bed with pain and high fever. The mass was evacuated and found to contain thick, cream-colored pus. The patient's discomfort was relieved for a few days only, to be followed by high fever lasting seventy-four days. Subjectively and objectively her

condition did not justify so high a fever. The picture was suggestive of gonococcemia, but smears and cultures for the gonococcus were negative. The total number of leukocytes was high, but the polymorphonuclears were low and there was a mononuclear increase. Torulae were found in the pus, either lying free or phagocytized by mononuclears. They were grown in pure culture and proved highly pathogenic for experimental animals. The patient recovered.

Surgery on the Tuberculous Patient

DR. F. WEBB GRIFFITH, Asheville, N. C.: Local anesthesia should be used wherever possible. Ether does practically no more harm to the tuberculous than to the nontuberculous lung, and a general ether anesthesia should be employed whenever the necessity arises. Ethylene bids fair to replace ether in these cases. Pulmonary tuberculosis is not a strong contraindication to surgery, and many patients are greatly benefited by the surgical removal of conditions that are indirectly retarding their recovery. Whenever a tuberculous patient becomes pregnant, intervention should be considered. If it is deemed wise to allow the pregnancy to go to full term, well and good. If it is reasonably certain that intervention will be necessary, it should be done early before irreparable damage has been done to the lungs.

Treatment of Deep Roentgen-Ray Burns by Excision and Tissue Shifting

DR. JOHN STAIGE DAVIS, Baltimore: When the ordinary local methods have been tried for a reasonable time in a deep roentgen-ray burn, nothing is gained by delaying operative work. Early excision of deep burns with tissue shifting promises more than any method yet devised, and gives a reasonable prospect of permanent relief in a comparatively short time. Pain is eliminated, in many instances function is restored, and patients who have been incapacitated for years have been returned to their former activities. The ultimate results have been most gratifying.

Sterility in the Male

DR. FRANCIS R. HAGNER, Washington, D. C.: Of all the causes of sterility, the principal one is bilateral gonorrheal epididymitis. The globus minor is the portion of the epididymis most involved. The only chance for recovery in such cases lies in the endeavor to overcome the occlusion by an anastomosis of the vas deferens and globus major. I expose the entire epididymis and pick out the portion of the globus major richest in tubules and more likely to contain live spermatozoa. An elliptic piece is exsected from the epididymis. If no spermatozoa are found, the incision is closed with catgut suture, another place is selected, and the same procedure is followed. The spermatozoa are actively motile in the epididymis even when occlusion has been present for many years. The only successful suture material is silver wire. The first suture is placed at the distal end of the incision in the vas. It is then anchored firmly in the lower end of the elliptic incision of the epididymis. Two lateral sutures are then placed to include some of the cut tubules. The suture is then passed through the cut edges of the vas, taking just enough tissue to approximate the edges, and the last suture is passed in the same way through the upper end of the incision in the vas, being carefully placed so as not to occlude the lumen. A failure at one time, if the vas is patulous, is no contraindication to a second operation. Some of the most successful results have followed a second operation.

Rupture of Intestine from Abdominal Contusion

DR. JERE L. CROOK, Jackson, Tenn.: A man, aged 34, while helping to drill a well, was struck on the abdomen by a section of a 4 inch hose full of compressed air. The brass connection of the hose struck the left inquinal region, producing an immediate protrusion of abdominal viscera into the scrotum. A physician was immediately summoned. He found the patient in considerable shock with a left inguinal hernia, the hernial contents being in the scrotum. He gave the patient a hypodermic of morphine and succeeded in reducing the hernia by taxis. The man continued to have pain, and early the next morning he vomited for the first time. His condition was much worse; the abdomen was extremely tender, with rigidity along the left rectus muscle and an increased pulse rate. He was then brought to me, making a 30 mile trip in comparative comfort, having received one-half grain (0.03 Gm.) of morphin just before starting. A left rectus incision revealed a beginning peritonitis due to a rupture of the ileum, through which a considerable amount of intestinal contents had escaped into the abdominal cavity. Instead of suturing tightly the opening in the bowel, I inserted a large rubber catheter, which was enfolded by a double row of Lembert sutures, as in gallbladder drainage. The neighboring omentum was brought down, a slight opening was made, and the tube was brought through the slit, the omentum being lightly tacked to the bowel around the tube and the tube brought out through the abdominal incision, which was closed in the usual way. Physiologic sodium chloride solution, 1 pint, was given by rectum immediately following the operation. Six hours later, proctoclysis with 5 per cent glucose and soda solution was begun and continued at intervals for twenty-four hours, when it began to return. Then two 20 cc. ampules of glucose with 1,000 cc. of physiologic sodium chloride solution was given intravenously, with marked benefit. Later the 5 per cent glucose and soda solution was given through the enterostomy tube, which was clamped for three hours and then allowed to drain fecal contents, the tube thus being used for a double purpose. The tube came out on the ninth day. Fecal drainage entirely ceased by the eleventh day, and the wound healed so rapidly that the patient was able to return to his home seventeen days after admission.

Fracture of the Neck of the Femur

DR. ROBERT CAROTHERS, Cincinnati: I have never found operative intervention necessary in acute cases, and in my judgment it is contraindicated. Hospitalization is not necessary. I believe that a fibrous union, when strong with the leg in good position, is better than union by bone with the leg adducted. Careful study, watching and nursing brings success in these cases.

Rupture of Diaphragm

DR. FRANK C. BEALL, Fort Worth, Texas: Rupture of the diaphragm is probably not so rare as a survey of the literature would indicate. In the majority of cases immediate operation is not indicated, and is better deferred until all symptoms of shock have passed. In cases of rupture, the diaphragm is accessible through a high median abdominal incision. The closure of the torn diaphragm is best effected by means of interrupted sutures. Tension sutures are essential to protect the line of coaptation sutures.

Some General Principles in the Treatment of Fractures

DR. E. DUNBAR NEWELL, Chattanooga, Tenn.: The greatest factor in the success of all open operations on bones is the gentle handling of tissues by cleancut dissections, interfering with the blood supply to the bone as little as possible and never lifting the bones from their bed by rough retraction, not disturbing the periosteum, not removing attached fragments of bone, apposing the fractured ends without suturing or plating, if possible, and when not possible using the least amount of retention sutures or appliance that can hold the ends in apposition. I prefer silver or bronze wire as the suture material of choice for this purpose. Absolute immobilization of the fractured ends is a causative factor in nonunion. It is not only nonessential to normal osteogenesis, but retards the normal healing process in fractured bones. Firm, bony union seems to develop more rapidly following a comminuted fracture than it does in a simple, transverse or oblique fracture. Compound fractures, when the blood supply has not been seriously impaired and the soft parts not gravely mutilated, unite as quickly as simple fractures.

Technic of Hysterectomy

DR. F. G. DUBOSE, Selma, Ala.: Complete hysterectomy is the operation of choice. The cervix uteri is not the keystone of the pelvic arch. It is tumor bearing tissue, and should be removed with the neoplasm and uterus. Focal infections from the diseased cervix and its glands occur, not rarely, as

is stated. Supravaginal amputation of the uterus is not as safe as a complete hysterectomy. If accidents follow the complete operation, they are the result of faulty technic.

Rupture of the Uterus Following Administration of Pituitary Extract

DR. J. GARLAND SHERRILL, Louisville, Ky.: One case occurred in connection with a transverse presentation and dystocia from contracted pelvis. The patient came under observation four hours after rupture, which occurred during efforts at version. Recovery followed laparotomy and suture of the uterus. The second case was that of a healthy young wife at the conclusion of her first pregnancy. There was a history of considerable difficulty in labor, with some inertia. Instrumental delivery and manual extraction of the placenta were required. At the conclusion of the latter step marked hemorrhage occurred, and the patient went into serious collapse, but rallied in a short time. During the progress of the labor she received three doses, 0.5 cc. each, of pituitary extract at two hour intervals. A slight tear of the perineum was sutured. She progressed satisfactorily until the ninth day, when she developed a temperature of 103 F., with a sharp chill. During the next two days she showed some improvement, but on the twelfth day she again had chill and fever. There was little discharge and no odor. Irregular chills continued until the thirtieth day after delivery, when examination under an anesthetic revealed a tear at the ring of Bandl and two lacerations in the fundus. Hysterectomy was followed by gradual subsidence of the symptoms, and the patient made a good recovery. The fact that she received pituitary extract during labor must be considered as one of the determining causes of rupture, perhaps the chief causative factor.

Operation for Complete Prolapse of the Rectum

DR. URBAN MAES, New Orleans: I have developed a plastic operation on the levatores ani and pelvic fascia, which is based on the assumption that an abnormally deep culdesac, together with relation of the lateral ligaments, the levatores ani and the sphincter ani, is the cause of complete prolapse of the rectum. The method grew out of the idea that relaxed levatores might easily be corrected by the vaginal route and that at the same time a deep culdesac might be obliterated and the rectum suspended, as in operations for high and extensive rectocele. The operation is original with us but we have recently learned that a very similar procedure was reported by Duval and Lenormont in 1904.

Ethylene and Oxygen Anesthesia in General Surgery

DR. DONALD GUTHRIE, Sayre, Pa.: We have given 1,590 ethylene and oxygen anesthesias. It is now employed in general surgery except for nose, throat and mouth cases, and those cases in which the cautery is to be used. We are impressed with the advantage of ethylene over nitrous oxide and oxygen, and consider it safe. We are able to obtain relaxation which will permit operating in all types of major abdominal cases and the reduction of fractures of long bones and dislocations of the larger joints. It is especially valuable in operations on the thyroid, as the breathing is quiet and normal and there is no excessive mucus secretion. Because of its slight effect on blood pressure, it is an anesthetic well suited for the cardiovascular, the nephritic or diabetic patient who may require surgery. During the last two months we have used carbon dioxide after the ethylene has been stopped and find that the patients awaken in a very much shorter time, and that vomiting while on the table and retching now rarely occurs. We have had about the same number of postoperative pulmonary complications as after nitrous oxide and oxygen, certainly far less than following ether.

Periarterial Sympathectomy

DR. NATHAN WINSLOW, Baltimore: Periarterial sympathectomy has been performed four times on three patients at the University of Maryland, thrice for thrombo-angiitis obliterans with gangrene of the toes, and once for Raynaud's disease of the foot. Not once did the operation exert the slightest influence over the progress of the disease, all three patients having subsequently to undergo amputations. In no instance can the failure be attributed to faulty technic, for in each case the artery contracted down to a mere thread throughout the entire extent of the denuded area and ceased to pulsate to both sight and touch beyond the operative site, which, according to Leriche, is positive proof that the decortication has been properly executed. From present indications, periarterial sympathectomy is worthless in senile gangrene, in ascending neuritis and in erythromelalgia. In causalgia and trophic ulcers the results are more favorable, but undependable.

Spinal Block in Acute Cord Injury

DR. CLAUDE C. COLEMAN, Richmond, Va.: Unless there is good reason to believe that the cord has been destroyed at the level of the injury, the presence of a block is considered an unequivocal indication for operation; but this indication will at times be set aside by the clinical judgment of the surgeon. Serious associated injuries and hyperthermia, particularly in cases of cervical injuries, may cause the surgeon to adopt a conservative attitude, although the demonstration of a spinal block shows that the cord is compressed. In view of the fact that these operations are done under local anesthesia, an interesting question arises as to the possibility of reducing high temperature by relieving cord compression. It may be that the incarceration of the cord is a factor in the hyperthermia, and if so it would be an additional indication for prompt laminectomy. There are a few cases of severe cord injury which are benefited by operation and a still larger number to which operation offers nothing.

Aneurysm of the Subclavian Artery

DR. WALTER C. G. KIRCHNER, St. Louis: A right angle skin incision was employed, one portion extending along the outer border of the sternomastoid muscle, the other parallel with the clavicle. With careful dissection, the anterior border of the scalenus anticus muscle being used as a guide, there was no great difficulty in finding the first portion of the subclavian artery, which was ligated here. The aneurysmal sac was large and pocketed. Bleeding came from the internal mammary, the thyroid axis and vertebral arteries, and these were sutured and ligated. The method of obliterative endoaneurysmorrhaphy as recommended by Matas was employed. There was no gangrene of the extremity, though a slight paralysis of the extensors of the forearm resulted. The aneurysm remains completely cured after two years.

Cancer of Oral Cavity

DR. JOSEPH COLT BLOODGOOD, Baltimore: The records of the surgical pathologic laboratory of the Johns Hopkins Hospital are complete since 1889 and allow one to make a careful study of all the lesions of the oral cavity and to compare the types and stages of cancer treated during the four decades and the results of the treatment five and more years later. The most striking differences are between the first decade up to 1900 and part of the fourth decade since 1920. In the first decade more than 50 per cent of the cases of cancer of the mucous membrane of the mouth came under observation in the late and inoperable stage. Since 1920 this has been reduced to less than 10 per cent. It should be entirely wiped out, at least to within 1 to 3 per cent, by getting correct information to the masses. Benign conditions, fully one half or more of which are distinctly precancerous, were very rare in the first decade—less than 3 per cent. Since 1920 they have been more than 60 per cent. It is fair to assume that at least half of these patients with benign lesions of the mouth are protected from cancer. Early cancer, with its probability of a cure in more than 70 per cent, were equally uncommon in the first decade—less than 3 per cent. Now in 60 per cent of the malignant lesions the local growth is in the earliest stage of cancer. Five-year cures have therefore increased from less than 5 per cent to more than 45 per cent, and little, if any, of this great improvement can be attributed, in this clinic, to improved methods of treatment. Practically all of it is due to the educational factor. If we add those benign lesions that have been brought under observation before cancer has developed, it seems just to record that cancer cures have improved from 5 to more than 75 per cent.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL for a period of three days. No foreign journals are available prior to 1920, nor domestic prior to 1923. Periodicals published by the American Medical Association are not available for lending, but may be supplied on order. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested).

Titles marked with an asterisk (*) are abstracted below.

American Journal of Roentgenology and Radium Therapy, New York

14: 381-486 (Nov.) 1925

*Present Knowledge of Pneumonoconiosis, Based on Roentgenologic Studies. H. K. Pancoast and E. P. Pendergrass, Philadelphia.—p. 381.
*Effect of Effort on Size of Heart. B. Gordon, Boston.—p. 424.
Diagnosis and Treatment of Intrathoracic Lymphadenopathy from Roentgenologic Viewpoint. J. D. Lawson, Woodland, Calif.—p. 427.
Roentgenologic Diagnosis of Gastrojejunal Ulcer. A. B. Moore and W. J. Marquis, Rochester, Minn.—p. 432.
*Diseased Appendix as Cause of Acidosis in Children. A. L. Gray, Richmond, Va.—p. 436.
Dyschezia. H. J. Isaacs and M. I. Kaplan, Chicago.—p. 439.
*Skeletal Metastasis from Primary Carcinoma of Breast. R. G. Giles, Cleveland.—p. 442.
*Use of Corpus Luteum to Prevent Nausea in Radiation Therapy of Uterine Conditions. R. H. Lafferty and C. C. Phillips, Charlotte, N. C.—p. 449.
Roentgen-Ray Treatment of Bowen Type of Skin Cancer. H. H. Hazen, Washington, D. C.—p. 450.

Pneumonoconiosis.—Pancoast and Pendergrass review the entire subject of pneumonoconiosis from the pathologic and roentgenologic standpoints, place their own group of cases on record, and urge the more widespread study of dusty industries by roentgenologic investigations with a view of lessening the dangers to which many workers are exposed.

Effect of Effort on Size of Heart.—Observations were made by Gordon on animals and marathon runners. Rabbits with normal and abnormal hearts were exercised to exhaustion. Roentgenographic examination showed the hearts to be diminished in size immediately after strenuous effort. There was no evidence of dilatation. A roentgenographic study was carried out on competitors in the Boston marathon race. In these studies there was no evidence of dilatation of the heart. In most instances the hearts were found to be somewhat smaller immediately after the race and to return to a normal size within a few hours. The runners were also studied for the purpose of noting a permanent enlargement of the heart which could be attributed to prolonged athletic activity. This phase of the study indicated that many years of the most vigorous physical effort did not produce cardiac hypertrophy. It seems, therefore, that exercise does not cause cardiac dilatation and that prolonged athletic training fails to develop hypertrophy of the heart.

Diseased Appendix Cause of Acidosis.—With the idea in view that "cyclic vomiting" and other gastro-intestinal conditions often referred to as "acidosis" might be due in some instances to a diseased appendix, Gray examined a number of patients and found that in many there was distinct roentgen-ray evidence of disease, either then existing or which had resulted in a definitely abnormal appendix. When this evidence was found, the appendix was removed and in practically every case a complete relief from the attacks followed.

Carcinoma of Breast with Bone Metastasis.—Giles has seen seven cases of primary carcinoma of the breast with secondary cancerous deposits in the bones. Two of these patients were given roentgen-ray treatments with marked improvement in general health, and life has been prolonged, with relief from the distressing symptoms. One case is reported in detail.

Corpus Luteum Prevents Irradiation Nausea.—After having observed the benefit derived from the use of corpus luteum intravenously in those patients suffering from nervous and emotional symptoms following the production of artificial menopause by irradiation and also in some cases of vomiting of pregnancy, Lafferty and Phillips tried its use in patients while under treatment, thinking that the action of the rays on the internal secretion of the ovaries might be partially responsible for the condition. They have treated sixteen patients ranging in age from 25 to 45 years. Ten were entirely relieved, four were improved and two were unimproved. All of these sixteen patients were known to become very much nauseated following small doses of roentgen rays, when corpus luteum was not used. The authors administer usually only 1 cc. intravenously immediately after treatment, but in some patients 2 cc. is required to produce results.

American Journal of Syphilis, St. Louis

9: 589-794 (Oct.) 1925

*Treatment of Visceral Syphilis with Bismuth. J. H. Musser, New Orleans.—p. 589.
Bismuth Treatment for Syphilis. I. C. Sutton, Los Angeles.—p. 600. (To be Cont.).
Diagnosis and Treatment of Syphilis. O. S. Warr and L. C. Sanders, Memphis, Tenn.—p. 642.
*Normal Arsenic: Significance from Point of View of Legal Medicine. C. N. Myers and L. H. Cornwall, New York.—p. 647.
Bilateral Charcot Hip Joints: Three Cases. J. L. Greene and F. J. Scully, Hot Springs, Ark.—p. 704.
*Drug Epiphenomena in Syphilitics. E. W. Abramowitz, New York.—p. 709.
*Paroxysmal Hemoglobinuria "E Frigore" in Syphilis. H. W. Traub, Chicago.—p. 717.
Treatment of Metasyphilitic Conditions with Silver-Arsphenamine and Mercury Intravenously. F. Garai, New York.—p. 723.
Interpretation of Quantitative Complement-Fixation (Wassermann) Report. R. A. Kilduffe, Atlantic City, N. J.—p. 738.
Wassermann Test. VIII. Influence of Antigen on Wassermann Reaction in Pregnant Women. D. L. Belding, Boston.—p. 745.
Id. X. Wassermann Reaction in Pregnant Woman. D. L. Belding, Boston.—p. 762.
Wassermann Reaction: System Using Excess Amboceptor. L. Cummer and F. R. Lyne, Cleveland.—p. 765.

Bismuth in Visceral Syphilis.—Bismuth, in Musser's opinion, is a drug which in certain selected cases of syphilis has a greater value in treatment than arsphenamine. Aside from the cases that are hypersensitive to arsphenamine or are arsenic-fast, the greatest field of usefulness for this drug is in the treatment of patients with syphilis and advanced organic disease. The two most important visceral disorders in which bismuth is of great value are cardiovascular syphilis and nephritis, whether due to, or a concomitant of, syphilis.

Arsenic Normal Constituent of Body.—As a result of a large series of examinations of persons taken at random, it seems to Myers and Cornwall that from a conservative point of view arsenic is undoubtedly a normal constituent of the body, depending on dietary conditions of the individual or the use of medication such as tonics, therapeutic remedies or external application. All these may be causative factors for the presence of arsenic. The presence of 0.40 Gm. of arsenic per hundred grams of dried specimen may be regarded as a normal value for urine. The presence of arsenic is not as uniform in blood as in urine, but occasionally amounts may be found of fairly large magnitude. Whenever this amount becomes exceedingly large, suspicion should be aroused and the inference drawn that the patient has been receiving medication, provided the clinical history or serologic test shows that syphilis is present. The presence of arsenic as a normal constituent in blood should not exceed 0.3 mg. per hundred grams of dried specimen. Any excess of this quantity should be considered as an indication of ingestion by food or medication. Arsenic may be regarded as a normal constituent of hair. Occasionally persons may be found whose hair does not contain arsenic. Milk obtained from normal persons should contain practically no arsenic, and the presence of arsenic should be considered as indicating therapeutic medication or as being brought about as a result of ingestion of certain types of food. Arsenic is found in almost all cases in babies.

Drug Epiphenomena in Patients with Syphilis.—Abramowitz calls attention to the fact that patients with syphilis may present, at the same time, two types of lesions, one due to syphilis and the other due to various other causes. Common among such epiphenomena are eruptions due to drugs used for the treatment of syphilis, and commonly prescribed, and household remedies used for headaches, constipation, insom-

nia, etc. Fixed drug eruptions seem to be the most frequent, and are produced by the arsenicals, phenolphthalein and the antipyrine and luminal group.

Paroxysmal Hemoglobinuria in Syphilis.—A case of paroxysmal hemoglobinuria "e frigore" is reported by Traub. Paroxysmal hemoglobinuria "e frigore" is primarily and essentially a symptom complex, the substratum for which is laid by syphilis. "Vaccination" or desensitization by means of "cold," as suggested by Schiassi, plus small weekly doses of arsenic, effected amelioration of symptoms. Mercurialization appears to have effected cessation of the attacks.

American Journal of Tropical Medicine, Baltimore

5: 385-442 (Nov.) 1925

Yellow Fever Campaign in Colombia, 1923-1924. H. Hanson, New York.—p. 393.
Prevalence of Yellow Fever Mosquito Aedes Aegypti (Linn.) in Colombia. L. H. Dunn and H. Hanson, New York.—p. 401.
Geographic Distribution of Serologic Groups of Brucella Melitensis. A. C. Evans, Washington, D. C.—p. 419.
Suspected Yaws in Costa Rica. S. Nunez, San Jose.—p. 425.
*Experimental Immunity in Syphilis and Yaws. H. J. Nichols, Washington, D. C.—p. 429.

Immunity in Syphilis and Yaws.—Nichols states that epidemiologic data suggest that yaws protects against syphilis. Experimentally, a partial immunity against syphilis can be demonstrated in rabbits which have been infected a long time with yaws and cured by arsphenamine.

American Review of Tuberculosis, Baltimore

7: 173-272 (Nov.) 1925

*Tuberculosis in Tropics. R. A. Lambert and B. de Castro Filho, São Paulo, Brazil.—p. 173.
*Case of Bilateral Spontaneous Pneumothorax. R. Briggs, Pittsburgh —p. 183.
*Injection of Superior Laryngeal Nerve with Alcohol for Relief of Pain in Laryngeal Tuberculosis. G. I. Swetlow, New York.—p. 189.
Artificial Pneumothorax: Plea for Wider Application in Treatment of Pulmonary Tuberculosis. I. D. Bronfin, E. Nelson and J. Zarit, Sanatorium, Colo.—p. 197.
Results at Muskoka Institutions of National Sanitarium Association. W. B. Kendall, Gravenhurst, Ontario.—p. 209.
*Thoracic Splint for Pulmonary Tuberculosis. W. C. Howell, Colorado Springs, Colo.—p. 217.
*Effect of Oral Administration of Calcium Lactate and Thyroid Extract on Calcium Content of Blood Serum in Pulmonary Tuberculosis. M. M. Teplitz, Hartford, Conn.—p. 222.
*Importance of Apical Roentgenogram in Pulmonary Tuberculosis. F. Baum and L. T. Black, Denver.—p. 228.
*Complement Fixation in Tuberculosis. IV. Nature of Antibody. M. Pinner, Chicago.—p. 233.
Attenuation of Tubercle Bacilli in Incubated Tuberculous Tissues. G. B. Webb, C. T. Ryder and G. B. Gilbert, Colorado Springs, Colo.—p. 242.
*Influence of Iron on Growth of Tubercle Bacillus on Glycerinated Beef Broth. R. R. Henley, Washington, D. C.—p. 246.
*Investigation of Acid-Fastness of Tubercle Bacilli. B. Suyenaga, Chicago.—p. 260.
Method for Transferring Tubercle Bacilli from Solid to Liquid Culture Mediums. A. Lutz, Baltimore.—p. 270.

Tuberculosis in Tropics.—A systematic study made by Lambert and de Castro of the anatomic findings in 402 necropsies in São Paulo, Brazil, revealed the following facts: Lethal tuberculosis was found in eighty-three cases, or 20.6 per cent; subsidiary tuberculosis in 15.4 per cent; healed lesions only, in 4.5 per cent; and "doubtful" lesions only, chiefly instances of pleural adhesions, in 32.3 per cent. Assuming that half the "doubtful" lesions were tuberculous in origin, the cases showing active or healed infection were about 60 per cent. The percentage was practically the same for the second, third, fourth and fifth decades of life. The percentage of lethal tuberculosis in the negroes was almost double that in the whites, 27.3 and 15.5, respectively, whereas there were almost four times as many whites as negroes in which undoubted healed lesions were demonstrable. The anatomic character of the lesions, particularly among the whites, corresponds, in general, to that seen in the "tuberculized" peoples of Europe and North America, typical chronic pulmonary tuberculosis being the chief manifestation of the infection in a large majority of the cases. Except as a part of a generalized infection, involvement of the cervical and mesenteric lymph nodes was rarely seen. It is suggested that the custom of using only boiled milk may account for the apparent rarity of the bovine type of infection.

Bilateral Spontaneous Tuberculosis.—Briggs' patient, with a bilateral pneumothorax discovered accidentally during a routine examination of the gastro-intestinal tract, constitutes the ninth case of spontaneous bilateral pneumothorax in the literature. The etiologic factor was not clear, as the entire clinical picture was obscured by the concomitant presence of carcinoma of the stomach. Briggs does not feel, however, that the latter disease had any bearing on the pulmonary condition. On the other hand, necropsy having been refused, it cannot be said with finality that the condition was not brought on by pulmonary tuberculosis, especially since the expanded lung fields had not been examined, although from the law of probability this seems to be the most likely etiologic factor.

Alcohol Injections Relieve Pain of Laryngeal Tuberculosis.—Thirteen patients with advanced pulmonary tuberculosis and specific laryngeal tuberculosis were treated by Swetlow by injecting the superior laryngeal nerve with alcohol. Four patients who had agonizing pain and could swallow practically no food of any kind because of pain were completely relieved. One patient had been free from all discomfort for twenty-two days. The pain recurred, and after another injection the patient was again comfortable. Another had been absolutely free from all discomfort for forty-five days to date. Still another had been almost completely relieved for thirty-five days to date. Another group of patients, though relieved of pain, have difficulty in "pushing the food down," as they put it. Various degrees of this difficulty are complained of. In fact, all of the patients treated had this motor disturbance which disappeared in a day or two.

Thoracic Splint for Pulmonary Tuberculosis.—The thoracic splint used by Howell is made by using ordinary plaster-of-Paris bandages to mold a splint to the front and back of the affected side. These splints are entirely separate, and have a space of about 2 inches up and down the midaxillary line. The splints extend from just below the clavicle in front and just above the spine of the scapula behind to below the ribs, front and back. When the splints are about half-made, and just strong enough to stand a moderate amount of pressure, three springs are placed over the splints, and over these are placed more layers of the plaster-of-Paris bandages to incorporate the springs, cover the springs, and fix them. These springs can be cut from the innermost part of a discarded phonograph spring, and should be from 10 to 13 inches long, depending on the size of the patient. Care should be taken not to make the appliance unnecessarily thick, and it should not reach quite to the sternum in front or the spines of the vertebrae behind. After drying an hour it can be removed, trimmed, and the edges smoothed. The patient should be instructed to wear the appliance for only half an hour at a time, for several times the first day. Each day he can wear it for a longer and longer period until it is worn twelve or more hours a day. It can be easily worn while in bed, and the patient should always put it on before leaving the bed, in order to allow the fine filaments of scar tissue to be formed and to be not broken each day by rapid or laborious breathing.

Blood Calcium in Pulmonary Tuberculosis.—Teplitz' findings apparently indicate that there is a decided loss of calcium from the blood in the terminal stages of pulmonary tuberculosis.

Importance of Apical Roentgenogram in Tuberculosis.—According to Baum and Black, the apical plate is of greatest importance in certain cases of pulmonary tuberculosis. Its value seems to lie in cases of questionable apicitis, as well as in artificial pneumothorax or thoracoplasty cases in which tuberculosis in the so-called good lung must be excluded.

Complement Fixation in Tuberculosis.—Serums of tuberculosis patients with positive complement fixation were digested by Pinner with trypsin and dialyzed simultaneously until chemically free from proteins and protein fixing antibodies. The complement-fixing tuberculous antibodies are therefore not of the nature of globulins. They are either lipoids or proteins which are not broken up by the action of trypsin, that is, proteins with the CO-NH linkage. The results of previous investigators, which are at variance with the results presented by Pinner, are explained by the

technic of their experiments. In accordance with previous investigators, it has been demonstrated that the complement-fixing antibodies have apparently no quantitative or qualitative relation to the ethylbutyrases ("lipases"). True lipases with a specific action on tubercle bacillus lipoids could not be detected in serums with complement-fixing qualities. The phenomenon that serums of tuberculosis patients, which twenty-four hours after the withdrawal of the blood give a negative complement-fixation test, become positive after standing for a week or more (Wedel), is not specific for tuberculous serum. The same occurrence is observed, although in a much smaller percentage, in serum of undoubtedly nontuberculous persons. Complement-fixing antibodies may readily be destroyed by ether. Any procedure which uses ether extraction is, therefore, to be excluded from examinations for complement-fixing antibodies.

Influence of Iron on Tubercle Bacillus Growth.—Henley found that after eight to twelve weeks' incubation the weights of pellicles of *B. tuberculosis*, human type, from glycerinated beef broth which contained 20 mg. of ferric sulphate per hundred cubic centimeters, averaged 41 per cent more than the weights of pellicles from control broths which contained no added iron. However, during the first few weeks the bacteria grew more slowly on iron than on control mediums.

Acid Fastness of Tubercle Bacilli.—By rapid transfer and rapid growth of the younger borders of colonies of a saprophytic strain of tubercle bacilli, Suyenaga was unable to establish a nonacid fast strain. However, after more than 300 transfers the acid-fastness of the culture was considerably reduced.

Boston Medical and Surgical Journal

193: 1085-1132 (Dec. 10) 1925

Influence of Boston on American Medicine. J. H. Gibbon, Philadelphia.—p. 1085.
Physician, Student and Medical Social Worker. G. R. Minot, Boston.—p. 1090.
*Diabetes, Insulin and Pregnancy. R. Fitz and W. P. Murphy, Boston.—p. 1092.
*Sacral Anesthesia. E. J. Ottenheimer, Boston.—p. 1094.
Nitrous Fume Poisoning. W. F. Boos, Boston.—p. 1096.
Neurosyphilis: Early Recognition and Economic Importance. H. R. Viets, Portland, Maine.—p. 1098.
Gallbladder Surgery. W. C. Seelye, Worcester, Mass.—p. 1100.

193: 1133-1180 (Dec. 17) 1925

Treatment of Gastric and Duodenal Ulcers. E. S. Emery, Jr., Boston.—p. 193.
Iodin Hyperthyroidism; Analysis of Fifty Cases. A. S. Jackson, Madison, Wis.—p. 1138.
William Charles Wells of Charleston and London. S. R. Roberts, Atlanta, Ga.—p. 1140.
Present Status of Occupational Therapy in Hospital Curriculum. J. D. Adams, Louisville.—p. 1146.
Volkmann's Contracture Involving Pronator Quadratus: Case. J. S. Stone, Boston.—p. 1149.
Preparation of Patients for Anesthesia. H. P. Stevens, Boston.—p. 1151.

Diabetes and Pregnancy.—Fitz and Murphy record the case of a young woman with diabetes who had a return of menstruation under insulin treatment after nearly two years of amenorrhea, and who finally became pregnant, thus establishing the fact that diabetic girls may not only have a return of normal menstruation under insulin after a long period of amenorrhea, but may also become fertile.

Sacral Anesthesia.—Ottenheimer has found that from 90 to 100 cc. of a 1 per cent procaine solution seems to give more consistently successful sacral anesthesia than smaller quantities of a more concentrated solution.

California and Western Medicine, San Francisco

23: 1521-1664 (Dec.) 1925

Status of Clinical Pathologist. R. A. Kilduffe, Atlantic City, N. J.—p. 1553.
*Glucose Intolerance Associated with Eczema. S. Ayres, Jr., Los Angeles.—p. 1560.
*Use of Whole Lactic Acid Milk in Private Practice. J. W. Chapman, Pasadena.—p. 1564.
Roentgenoscopy of Urinary Tract: Case of Congenital Unilateral Kidney. F. B. Sheldon, Fresno.—p. 1569.
Affectivity: Importance in Practical Medicine. C. L. Allen, Los Angeles.—p. 1571.
*Correction of Flexion, Adduction and Internal Rotation Deformities of Lower Extremities, Resulting from Cerebral Palsy of Childhood. R. H. Pyles, Los Angeles.—p. 1576.
*Metastatic Testicular Carcinoma Involving Abdominal, Mediastinal and Supraclavicular Glands Treated by Roentgen Ray. H. J. Ullmann, Santa Barbara.—p. 1579.
Early Rachitic Changes in Femur and Tibia. H. W. Chappel, Los Angeles.—p. 1581.
Some Important Points in Rapid Healing, Complete Restitution of Function and Low Mortality in Suprapubic Prostatectomy Cases. H. A. Rosenkranz, Los Angeles.—p. 1584.
*Allergic Dermatitis. Case Due to Mohair. A. H. Rowe and H. Rogers, Oakland.—p. 1589.
Useful Appliances in Treatment of Some Common Injuries. H. M. Wegeforth and A. Wegeforth, San Diego.—p. 1590.

Glucose Intolerance Associated with Eczema.—A preliminary report is presented by Ayres dealing with the glucose tolerance reactions in a series of thirty-six consecutive cases of typical eczema. The tests were made in two laboratories, each using the Folin-Wu colorimetric technic. The fasting blood sugar values in these cases of eczema were not found to be abnormally high, except in a few cases. Very striking deviations from normal were found, however, at the one and two hour periods, following the administration of the test glucose solution. Of the thirty-six eczema cases, 33.3 per cent showed 200 mg. or more of glucose per hundred cubic centimeters of blood at the end of one hour, in contrast with only 5.6 per cent of 300 normal controls; and 16.6 per cent of the eczema cases showed 200 mg., or more, at the end of two hours, in contrast with only 0.8 per cent of 253 normal controls. Of the thirty cases which were tested at the end of three hours, 40 per cent had not returned to a conservative estimate of normal (110 mg.).

Whole Lactic Acid Milk Therapy.—Chapman emphasizes the fact that whole lactic acid milk is not a panacea. He does not believe its use is indicated in normal infants. He has found it to be of greatest value in the feeding of the so-called athreptic infant, although in some intestinal upsets its value is unquestioned.

Treatment of Deformities Resulting from Cerebral Palsy.—The most efficient means of establishing physiologic rest, the first and most important factor in the treatment of cerebral palsy, in Pyle's opinion is the plaster-of-Paris cast, which should be applied in all types of deformity as soon as the patient is seen. No operation yet devised has ever effected any reciprocal improvement in the affected muscles that have lost their cerebral control. Realizing that it is not a motor paralysis but a destruction of the mechanism which governs voluntary expression, surgical intervention is never indicated unless there is actual structural deformity to correct and that cannot be overcome by manipulation under anesthesia.

Roentgenotherapy of Metastatic Testicular Carcinoma.—Ullmann reports the case of a man, aged 35, who had the right testis removed eighteen months before he saw the man. The pathologist's report was teratoma. Recovery from operation was uneventful, and the man felt well for fifteen months, when he began to have pain alternately in the back and groins. He reported to his surgeon three months later, eighteen months after operation, who found abdominal and cervical masses, and referred him to Ullmann for roentgen-ray treatment. Two series of treatments were given after ten weeks. He last reported April 23, 1924. He was well of his tumor twenty-two months after treatment was first instituted. No report was obtained relative to the type of teratoma originally found, but Ullmann says it is fair to assume that it was of the highly malignant embryonal type, because of its rapid and extensive metastasis and its prompt response to roentgenotherapy.

Allergic Dermatitis Due to Mohair.—Rowe and Rogers report a case of allergic dermatitis, an eczema affecting both forearms, that was due to mohair. The eczema first manifested itself one week after the patient had received a mohair upholstered overstuffed chair. The chair was removed from the home and improvement began soon afterward and continued uninterruptedly to the complete disappearance of the lesions. There was a positive history of allergy in this case. The patient's mother had had hay-fever as a child. The patient herself had had hay-fever in her youth while a resident of Ohio. Her one child, 10 months old, had had eczematous lesions at the age of 3 months. Food testing by the cutaneous scratch method revealed only delayed reactions to raspberry,

apricot and banana, which reactions it was felt were probably without significance. Tests with animal emanation proteins revealed immediate positive reactions to goose feathers, cattle hair, horsehair, dog hair, rabbit fur and sheep wool, and a marked reaction to goat hair.

Journal of Industrial Hygiene, Baltimore

7: 539-582 (Dec.) 1925

*Efficiency of Oxygen-Carbon Dioxide Treatment of Carbon Monoxide Poisoning. C. K. Drinker, Boston.—p. 539.
Human Side of How to Do It Best. A. W. Sanders, Lancashire, England.—p. 559.
Photometric Methods for Studying and Estimating Suspensions of Dusts, Fumes and Smokes. P. Drinker, R. M. Thomson and J. L. Finn, Boston.—p. 567.

Treatment of Carbon Monoxide Poisoning.—The treatment of carbon monoxide poisoning by inhalation of a mixture of 5 per cent carbon dioxide and 95 per cent of oxygen has been in use for two years. At present, 300 organizations possess approved apparatus for giving this treatment. One hundred and eighty of these have replied to a letter of inquiry, 110 cases being reported in enough detail to be considered in Drinker's report, though the replies indicate a much larger actual use. All the evidence obtained indicates that (*a*) The inhalation treatment is exceedingly valuable in mild gassing, relieving or preventing the occurrence of headache, nausea, etc. (*b*) Patients seriously gassed but still breathing revive rapidly and thoroughly. (*c*) It is practicable to use the inhalation treatment with prone pressure artificial respiration when breathing has ceased.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

26: 325-396 (Dec.) 1925

*Acute Cocaine Poisoning. Prophylaxis and Treatment in Laboratory Animals. A. L. Tatum, A. J. Atkinson and K. H. Collins, Chicago.—p. 325.
Active Principles of Pituitary Extract. H. H. Knaus, London.—p. 337.
*Action of Certain Drugs and Ions on Rat's Uterus. H. H. Knaus and A. J. Clark, London.—p. 347.
Oestrous Variations of Uterine Activity in Rat. A. J. Clark, H. H. Knaus and A. S. Parkes, London.—p. 359.
*Comparative Study on Hypnotics of Barbituric Acid Series. C. Nielsen, J. A. Higgins and H. C. Spruth, Chicago.—p. 371.
Mechanism of Vagus Inhibition as Produced by Epinephrine. W. J. R. Heinekamp, Chicago.—p. 385.

Cocaine Poisoning.—Tatum, Atkinson and Collins believe that death in cocaine poisoning is due to the effects of direct medullary injury together with the deleterious indirect effects of the cocaine poisoned brain on the medullary centers. Artificial respiration alone is sufficient to raise the minimal fatal dose in the rabbit from 100 mg. to approximately 350 mg. per kilogram. The prophylactic administration of a mixture of barbital sodium and paraldehyde to the dog produces a fourfold increase in tolerance. Convulsions are completely and practically instantaneously controlled by an intravenous injection of the barbital paraldehyde mixture.

Action of Extract of Posterior Lobe of Pituitary on Uterus.—Experiments done by Knaus show that extract equal to 1 mg. of moist posterior lobe of the pituitary injected intravenously produces in the pithed cat a strong action on the uterus lasting for at least an hour together with a marked rise of blood pressure. The corresponding dose for a human being is extract equal to about 25 mg. of moist gland, and this appears to be the maximum dose that should be given intravenously. Larger doses are permissible for hypodermic or intramuscular injection, especially as the absorptive capacity of the subcutaneous tissues is impaired during pregnancy.

Hypnotics of Barbituric Acid Series.—The toxicity and efficiency of sixteen members of the barbituric acid series were determined by Nielsen, Higgins and Spruth for the albino rat. The results are listed in order of increasing toxicity, increasing efficiency and increasing safety margin.

Minnesota Medicine, St. Paul

8: 707-760 (Nov.) 1925

Cholecystography in Its Application to Diagnosis of Cholecystic Disease. R. D. Carman, Rochester, Minn.—p. 707.
Diagnosis of Chronic Abdominal Disease. D. M. Berkman, Rochester, Minn.—p. 712.
Lungs in Infancy and Childhood. C. A. Stewart and E. S. Platou, Minneapolis.—p. 715.
Indirect Inguinal Hernia: Relation to Accidents and Workmen's Compensation. O. W. Parker, Ely.—p. 719.
Grading of Carcinoma. A. C. Broders, Rochester, Minn.—p. 726.
*Malignant Tumors of Thymus: Case. J. A. Evert, Glendive, Mont.—p. 730.
Management of Colloid Goiter. H. C. Habein, Rochester, Minn.—p. 734.
Abruptio Placentae: Case. J. A. Cosgriff, Mankato, Minn.—p. 738.
Treatment of Syphilis. W. H. Goeckerman, Rochester, Minn.—p. 740.

Malignant Tumor of Thymus.—Evert reports a case of sarcomatous thymoma with numerous metastases in the lungs, skin, left cervical lymph nodes, liver and kidney, occurring in a man, aged 28, whose first complaint was cough and sore throat. The skin lesions led to a diagnosis of smallpox, and when pronounced lung symptoms arose it was believed to be a case of visceral smallpox. The true diagnosis was made post mortem.

New Jersey State Medical Society Journal, Orange

22: 455-498 (Dec.) 1925

Principles of Chemotherapy. J. A. Kolmer, Atlantic City.—p. 455.
Carcinoma of Bladder: Treatment by Combination of Surgery, Electrothermic Coagulation, Radium and Roentgen Rays. J. T. Stevens, Montclair.—p. 458.
Causation of Chronic Joint Disease. S. A. Twinch, Newark.—p. 474.
Has Doctor Lost His Golden Rule? J. H. Bradshaw, Orange.—p. 480.

New York State Journal of Medicine, New York

25: 1093-1132 (Dec. 15) 1925

*Therapeutic Value of Scarlatinal Antitoxin. F. G. Blake and J. D. Trask, New Haven, Conn.—p. 1093.
*Endocrine Treatment of Menstrual Disorders. T. F. Donovan, Buffalo.—p. 1099.
*Functional Abnormalities of Menstruation. G. M. Gelser, Rochester.—p. 1105.
*Protein (Milk) Injections in Gynecologic Infections. R. M. Rawls, New York.—p. 1108.
Provisions for Temporary Care of Insane Pending Commitment in New York State. W. Kiernan, New York.—p. 1111.

Therapeutic Value of Scarlatinal Antitoxin.—Blake and Trask conclude from their study that scarlatinal antitoxin in proper amount is a specific and prompt cure for uncomplicated scarlet fever. It indirectly benefits septic complications during the acute stage of scarlet fever, presumably by curing the specific toxemia. It has not been possible to demonstrate that it possesses any therapeutic value in post-scarlatinal sepsis after the rash has faded. To be therapeutically efficient in reasonable dosage, an antiscarlatinal serum should contain at least 12,500 minimal blanching doses of antitoxin per cubic centimeter or be able to neutralize at least 10,000 skin test doses of toxin per cubic centimeter. The amount of toxin required to cure scarlet fever promptly and with certainty by intramuscular injection varies from 3,000 to 12,000 units (from 30 to 120 cc. of a serum which neutralizes 10,000 skin test doses of toxin per cubic centimeter), depending on the size of the patient and the severity of the disease. To obtain the best therapeutic results, the full amount of antitoxin required in each case should be estimated and given at once as soon as the diagnosis is made.

Endocrine Treatment of Menstrual Disorders.—Fifty-two cases of menstrual disturbances were seen by Donovan in which roentgenograms were taken of the sella and of the hand. In these cases, signs of pituitary deficiency were found in association with large and small sellae. The size of the sella is no indication of the size or functional capacity of the contained pituitary. In all the cases, however, some degree of tufting in the terminal phalanges, with or without mushrooming, was seen; and the more marked the symptoms and the longer their duration, the more evident were these changes. The tufting and mushrooming are considered as evidence that overactivity of the anterior pituitary was present at some time. This, associated with fatigue—constant and made worse on exertion—is taken as an indication that underactivity is present and that anterior pituitary medication is needed. If there is present shoulder, waist and hip girdle obesity, extract of whole gland is given. Donovan emphasizes the fact that glands of internal secretion are not isolated organs; but each gland is to be considered an integral part of an interrelated chain of glands. Furthermore, they affect and are affected by the nervous system and other organs of the body.

Radiotherapy of Ovaries.—Gesler sounds a most emphatic warning against the indiscriminate subjection of patients to irradiation of the ovaries. The essential prerequisite for this is an exact diagnosis and an understanding of what is to be accomplished, for without this one is only doomed to disappointment.

Milk Injections in Gynecologic Infections.—Milk injections in pelvic inflammatory conditions have been given by Rawls in 111 cases. The milk has been used intragluteally with an initial dose of 5 cc. and then 10 cc. every third or fourth day. In ambulatory cases, in the outpatient department, intradermal milk, in 1 cc. doses, is used. Rawls has used as many as twenty consecutive doses in a single case, but most often from six to eight injections, from which he believes the maximum of benefit is obtained. Roughly, about 39 per cent of patients recovered, 54 per cent improved in health and 7 per cent remained as before.

Oklahoma State Medical Association Journal, Muskogee

18: 279-304 (Dec.) 1925

Maxillary Sinusitis. W. E. Dixon, Oklahoma City.—p. 279.
Nasal Conservation. C. H. Haralson, Tulsa.—p. 283.
Arsphenamine in Treatment of Diseases of Eye, Ear, Nose and Throat. J. W. Echols, McAlester.—p. 285.
Sympathetic Ophthalmia. W. M. Jones, Tulsa.—p. 287.
Foreign Body in Eye: Two Cases. F. R. Vieregg, Oklahoma City.—p. 290.

Philippine Journal of Science, Manila

28: 313-450 (Nov.) 1925

*Typical and Atypical Bacillus Dysenteriae Shiga; Agglutination Reactions. G. R. Lacy.—p. 313.

Dysentery Bacillus.—Forty-five strains of bacilli similar to and identical with *Bacillus dysenteriae* Shiga have been studied by Lacy. Serologically twenty-seven strains formed one group which corresponded to typical *B. dysenteriae* Shiga, nine formed a second group different from the first, and nine others formed a heterologous group agglutinated only by their homologous immune serums. The members of the large agglutinable group were indol negative, while the members of the small agglutinable group and the inagglutinable group were indol positive, with two exceptions. The two smaller groups corresponded culturally to the Schmitz bacillus, while the larger group corresponded to the Shiga-Kruse group of true *B. dysenteriae*. The members of the three different groups were pathogenic for rabbits. Polyvalent antidysenteric serum afforded protection against experimental inoculation with cultures of all three groups.

Surgery, Gynecology and Obstetrics, Chicago

41: 701-850 (Dec.) 1925

Endo-Aneurismoraphy. R. Matas, New Orleans.—p. 701.
*Ovarian Grafting. W. B. Bell, Liverpool, England.—p. 706.
*One Thousand Operations for Gastric, Duodenal and Jejunal Ulcers. V. Pauchet, Paris.—p. 711.
Congenital Stricture of Ureter; Four Cases. H. L. Kretschmer, Chicago.—p. 713.
*Repair of Ruptured or Strictured Ureters. L. L. McArthur, Chicago.—p. 719.
*Pneumonography. L. H. Clerf, Philadelphia.—p. 722.
*Analysis of Wound Union. B. H. Goff, New York.—p. 728.
*Does Bone Form From Osteoblasts or From Metaplasia of Surrounding Connective Tissue? C. Rhode, Germany.—p. 740.
*Bladder Neoplasms. D. W. MacKenzie, Montreal, Quebec.—p. 773.
Technic of Gallbladder Surgery. E. Holman, Cleveland.—p. 778.
Cancer Cell and Nature's Defensive Mechanism. W. C. MacCarty, Rochester, Minn.—p. 783.
*Bone Formation in Thyroid. M. G. Seelig, St. Louis.—p. 794.
Primary Pneumococcus Peritonitis in Children: Two Cases. A. H. Montgomery, Chicago.—p. 798.
*Thirty Cases of Proved Tuberculosis of Pleura. W. S. Lemon, Rochester, Minn.—p. 804.
*Aneurysms in Scarpa's Triangle: Ten Cases. R. W. McNealy and J. L. Spivak, Chicago.—p. 817.
Results in Surgery of Uterus and Adnexa. E. H. Pool and E. M. Hawks, New York.—p. 825.
*Levator Cervicis Uteri. F. G. DuBose, Selma, Ala.—p. 834.
Right Ureteral Obstruction Due to Short Cecal Mesentery. T. N. Hepburn, Hartford, Conn.—p. 836.
Guillotine for Dividing First Rib in Paravertebral Thoracoplasty. H. Lilienthal, New York.—p. 838.
Liver Pack Following Cholecystectomy for Acute Cholecystitis. R. L. Mason, Boston.—p. 839.

Ovarian Grafting.—In Bell's opinion the question of the employment of ovarian grafting in preference to the so-called clean sweep is no longer open to discussion: ovarian transplantation is a procedure no scientific gynecologic surgeon can afford to neglect. It only remains to select the proper cases, and endeavor to perfect the technic that in the future one may prophesy, even more definitely than is possible today, a successful result. Bell analyzes 118 cases. Menstruation was possible in 107 cases; menstruation occurred in 71 cases; no menstruation and no menopausal symptoms occurred in 21 cases; no menstruation and menopausal symptoms occurred in 15 cases. Menstruation was impossible owing to supravaginal or complete hysterectomy in 11 cases; no menopausal symptoms occurred in 6 cases; menopausal symptoms occurred in 5 cases. Functional results were obtained in 98 cases; failure to obtain functional results, 20 cases.

Results of Surgery for Peptic Ulcer.—Pauchet has performed 1,000 operations for gastric, duodenal and jejunal ulcers, divided as follows: 367 for gastric ulcer, 536 for duodenal ulcer, 58 for gastric and duodenal ulcer combined, 39 for postoperative jejunal ulcer. The immediate mortality was as follows: gastro-enterostomy alone for duodenal ulcer, 1 case, 2 per cent; gastrectomy for duodenal ulcer, 2 cases, 5 per cent; resection for gastric ulcer in proximal third of lesser curvature, 9 per cent; resection for ulcer in the prepyloric portion or in the middle third of the lesser curvature, 1 case, 4 per cent. Prior to 1905, Pauchet limited his intervention to gastro-enterostomy with a mortality of 8 per cent. From 1905 to 1910, a wedge-shaped excision of the ulcer-bearing area alone was done with a mortality of 20 per cent. Since 1910, he has performed 367 operations for gastric ulcer. Of these there were 20 Balfour operations, 4 gastro-enterostomies, 18 annular (sleeve) resections and 327 gastrectomies (gastropylorectomies) after primary division of the duodenum. Pauchet says that the end-results of gastric ulcer operations are better when a large portion of the stomach is removed. The more one resects, the greater the percentage of cures. In 18 sleeve or annular gastric resections, a cure was obtained in only 3 cases after an extensive gastrectomy. The Billroth I method is his first choice but whenever this cannot be performed, he resorts to the Polya method. In 4 cases, a secondary operation was necessary after the Billroth I, because the duodenum was stenosed. Pauchet limits the Billroth I to cases in which the duodenum is relatively large. When this is not the case, he always employs the Polya method. In every high lying ulcer a total gastrectomy was performed in 5 cases, while in 21 cases Pauchet resected the lesser and three fourths of the greater curvatures, a method to which the French apply the term "resection en gouttiere." This method is followed by the most satisfactory end-results. In 2 cases there was a recurrence after the Balfour method and a secondary subtotal resection was followed by complete relief of symptoms. Pauchet has found typical carcinomatous changes in 15 per cent of 200 consecutive gastrectomies for ulcer which were subjected to microscopic examination. In 536 operations, gastro-enterostomy alone was performed in 213 cases. In 130 cases of duodenal ulcer, gastrectomy with resection of both the duodenum and stomach has been done. Pauchet has never found microscopic evidence of malignant changes in duodenal ulcers. A gastropylorectomy was the method of treatment in 39 jejunal ulcers with 4 deaths. The only jejunal ulcers found by Pauchet at operation in recent years were in patients operated on by other surgeons.

Repair of Ureter.—Given a missing portion of a ureter, even from 1 to 2 inches in length, McArthur makes a longitudinal slit in the side of the proximal portion sufficiently long to admit two catheters. One of these, a rubber urethral catheter, is inserted upward to the renal pelvis; the second, a ureteral catheter of good size, is inserted downward so that it passes out of the proximal end, and bridges the gap to the proximal end of the distal remaining ureter. Both ends of the ureters are then approximated as closely as feasible by absorbable stitches. The catheters are then brought to the surface and permanently secured to the skin by stitches or other devices. All the urine from that kidney is thus diverted

from the field of operation during the time of epithelization. The body tissues heal together around the catheter, bridging the gap between the renal end and vesical end, and the catheter simply remains in situ until in the judgment of the operator an epithelial lining has had time to grow between the ends. No experimental work along these lines has determined the time element; but that epithelization does occur has been amply demonstrated in the various reconstruction methods that have proved successful. McArthur reports one successful case.

Pneumonography.—Clerf points out that in a large series of cases it has been conclusively demonstrated that the Jackson method of bronchoscopic insufflation of bismuth subcarbonate into the tracheobronchial tree is devoid of untoward effects. The introduction of lipiodol in selected cases seems harmless. By increasing the visibility of the bronchial tree in cases of penetrating foreign bodies, the roentgenologist can furnish information which will assist in determining the best method of removal. In cases of lung suppuration a more accurate determination regarding the location and extent of the process is possible, which will often be of great assistance in deciding the proper form of treatment. Lung mapping, combined with a diagnostic bronchoscopy, will often lead to an early diagnosis in neoplasm of the lung. Pneumonography used in conjunction with roentgenography affords the best available diagnostic aid to the thoracic surgeon.

Analysis of Wound Union.—The analysis made by Goff covers 3,000 abdominal incisions. Of this number 2,755 have been classified as clean, while 245 incisions have been classified as contaminated at the time of operation. The procedures performed through these incisions have been largely gynecologic, with an occasional operation on the appendix or gallbladder, or for some type of hernia. Mammary and kidney incisions have been excluded. The vast majority of incisions have been longitudinal median ones; the remainder have been transverse suprapubic, paramedian, McBurney, or inguinal. With the exception of a very small number, the incisions have been of the intermuscular type rather than the type in which muscle fibers are separated. The average incidence of faulty wound union from all causes in clean abdominal incisions closed by absorbable suture material has been 12.1 per cent, while in clean incisions closed by nonabsorbable suture material it has been 4.3 per cent. The average incidence of infection in clean abdominal incisions closed by absorbable suture material has been 10 per cent, while in clean incisions closed by nonabsorbable suture material it has been 4 per cent. The average incidence of faulty wound union from all causes in contaminated abdominal incisions closed by absorbable suture material has been 83.5 per cent, while in contaminated incisions closed by nonabsorbable suture material it has been 70 per cent. The average incidence of infection in contaminated abdominal incisions closed by absorbable suture material has been 41.1 per cent, while in contaminated incisions closed by nonabsorbable suture material it has been 37.7 per cent. With the methods available at the present time, Goff says, the incidence of faulty wound union from all causes should not exceed 5 per cent in clean incisions and 70 per cent (including drainage as a cause of faulty wound union), in contaminated incisions.

Only Osteoblasts Form Bone.—As a result of clinical experience and experiments Rhode has come to the conclusion that after excluding tissue and organs, bone building power is found only in specific bone-building tissues (osteoblasts of the periosteum and marrow endosteum). Metaplastic bone building from the usual connective tissues of the musculature, the muscle septums, the tendons, the fascia, and the subcutaneous tissues does not take place. Heterotopic bone formation in soft tissue is from the unused remaining mesenchyme cells, which, through traumatism, infection, toxic stimuli or disturbance of metabolism, may abandon their indifferent stage at any time and commence to build bone.

Bladder Neoplasms.—MacKenzie analyzed 288 cases, of which 118 were malignant. Hematuria was the chief complaint in 75 per cent of cases, and usually the cause for seeking relief. Increased frequency of urination was the chief complaint in 25 per cent of cases, and associated in from 40 to 60 per cent. Dysuria was the chief complaint in 10 per cent of cases, and associated in from 15 to 20 per cent. Associated complications were pain in loin; incontinence; pain in perineum and genitalia. Suprapubic pain was not common.

Bone Formation in Thyroid.—Seelig reports a case of massive bone formation in the thyroid, so-called struma ossea, in which there was also complete block of the sympathetic trunk in the neck, due to pressure by the thyroid.

Tuberculosis of Pleura.—In eighteen of the thirty cases reported by Lemon, the history of illness was so insidious that it was reasonable to believe that the infection was tuberculous from the beginning. In fourteen cases, the onset was definitely characteristic of pleurisy. Some of the patients complained of soreness throughout the chest and later developed pain on inspiration, but others had sudden, knifelike, agonizing pains increased by inspiration and by coughing. One patient reported that the chest became immobile and enlarged before a diagnosis of fluid collection was made, and one patient suffered from aphonia. This was the only instance of pressure phenomena recorded. In Lemon's opinion it would seem wise to regard all cases of serous effusion as tuberculous, and to bear in mind that a great deal of harm can be done by hasty or ill considered treatment, and that a large percentage of all cases of empyema, especially if not preceded by pneumonia or sepsis, are also tuberculous.

Aneurysms in Scarpa's Triangle.—Of seven traumatic aneurysms, reviewed by McNealy and Spivak, six were arteriovenous and all six were the result of bullet wounds. The other traumatic aneurysm followed the surgical removal of an infected inguinal gland three and one-half months previous to the appearance of the pulsating tumor at the site of the operation. It is possible that syphilis had a part in the causation of this case since on examination it was found that the patient had a 4 plus Wassermann reaction. In three spontaneous aneurysms the Wassermann was positive in each case.

Levator Cervicis Uteri.—The structure in the female to which attention is called by DuBose is the prototype of the levator prostatae in the male.

Virginia Medical Monthly, Richmond

52: 545-616 (Dec.) 1925

Headaches: Distinctive Features. G. E. de Schweinitz, Philadelphia.—p. 545.
Obstetric Forceps Operation. D. S. Hillis, Chicago.—p. 550.
Legitimate Boundaries of Public Health Activities. E. G. Williams, Richmond.—p. 555.
Observations of Medical Man Among Malay Tribes of Sulu Archipelago. D. T. Gochenhour, Stuarts Draft.—p. 561.
*Gross Enlargement of Vermiform Appendix: Case. C. Williams, Richmond.—p. 569.
Our Lost Prestige—How Can We Regain It? J. M. Miller, Wytheville.—p. 573.
Epidemic Encephalitis. J. K. Gray, Marion.—p. 576.
Correction of Nasal Deformities by External Route. E. G. Gill, Roanoke.—p. 578.
Treatment of Lacerated Wounds of Extremities. A. M. Showalter, Christiansburg.—p. 581.
Potter's Version. J. M. Kopp, Roanoke.—p. 583.
Ethylene Anesthesia. A. P. Jones, Roanoke.—p. 589.
Place of Pituitary Extract in Obstetrics. M. P. Rucker, Richmond.—p. 598.
Management of Labor. H. F. Kane, Washington, D. C.—p. 593.
Foreign Bodies in Air and Food Passages. F. D. Woodward, Charlottesville.—p. 596.

Enlarged Vermiform Appendix.—In the case studied by Williams, the appendix was the size of a small banana, measuring 4 inches (10 cm.) in length and 1½ inches (3.5 cm.) in diameter. The tremendously thick wall of the appendix extended into the head of the cecum where the wall including the ileocecal valve was almost 1 cm. thick. It was obviously impossible to remove the appendix or to amputate the cecum without endangering the ileocecal connection. However, the acute inflammation was so severe that removal of the appendix was necessary; hence the lower ileum and cecum were resected.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted

British Journal of Radiology, London

30: 399-450 (Nov.) 1925

Time Factor in Disappearance of Roentgenographic Evidence of Fracture of Skull. W. H. Stewart.—p. 399.
Anatomic Analysis of Roentgen-Ray Picture in Phthisis of Lungs. L. Küpperle.—p. 416.
Intratumoral Radium Irradiation. G. Failla.—p. 420.
Encirclement Method of Using Buried Radium Tubes. W. S. Handley. —p. 422.
Use of Radium in Combination with Roentgen Rays and Surgery. N. S. Finzi.—p. 430.
Skin and Tumor Reactions; Bearing on Radiotherapy. R. V. Hudson. —p. 432.

British Medical Journal, London

2: 874-928 (Nov. 14) 1925

Carcinoma of Stomach. W. I. De Courcy Wheeler.—p. 875.
II. Symptoms and Diagnosis. E. I. Spriggs.—p. 877.
III. Diagnosis: Radiologic and Chemical. A. F. Hurst.—p. 879.
*IV. Relation of Carcinoma to Ulcer. M. J. Stewart.—p. 882.
Occupational Diseases of Ear, Nose and Throat and Their Prevention. F. H. Westmacott.—p. 886.
II. S. W. Grimwade.—p. 890.
III. D. Ranken.—p. 891.
IV. T. J. Faulder.—p. 892.
V. T. R. Rodger.—p. 893.
Diagnostic Exploration of Nasal Sinuses by Suction Syringe Method. P. Watson-Williams.—p. 894.
*New Method of Fitting Artificial Leg Sockets. E. M. Little.—p. 896.

Relation of Carcinoma of Stomach to Ulcer.—In trying to determine as accurately as possible the primary point of origin of chronic gastric ulcer and cancer, Stewart analyzed a series of 235 cases from the postmortem room, in which accurate information as to site was available, namely, 115 cases presenting chronic ulcer alone, 110, cancer alone, and ten cases in which it was considered that the cancer had probably originated in a simple chronic ulcer. Of the ten cases in which cancer had apparently arisen in a preexisting simple ulcer, nine lesions were in the lesser curvature region and only one was near the pylorus. In twenty-one of a series of 165 cases showing cancer, partial gastrectomy had been performed, and this group is excluded in considering local lymph gland metastasis. Of the remaining 144 cases, 104 showed involvement, obvious to the naked eye, of adjacent lymph glands. Those in the lesser curvature of the stomach were involved most frequently, but very often those along the greater curvature and in relation to the head and body of the pancreas were affected as well. Involvement of the subpyloric glands and of those in the portal fissure was frequent. In considering more remote metastasis, the whole series of 165 cases is included. In twenty-six cases there was more or less extensive involvement of the lumbar (prevertebral) glands, always with well marked local gland involvement. In seventeen cases there was intrathoracic lymph gland involvement, and in only five of these was this unaccompanied by downward extension along the abdominal aorta. In nine cases there was involvement of the supraclavicular glands—in seven on the left side only, and in two on both sides. Intrathoracic metastasis coexisted in seven of these cases, including the two in which the supraclavicular adenopathy was bilateral. The two remaining cases, both left sided, were probably examples of direct thoracic duct metastasis. In one case, only the local gastric glands were invaded; in the other case, partial gastrectomy had been performed ten months before, and, apart from local recurrence in the gastrojejunal anastomosis, the left supraclavicular adenopathy was the only cancerous lesion found. Peritoneal dissemination was present in forty-two cases, and in twenty-five of these it was both extensive and profuse. Direct extension to adjacent organs occurred with the following frequency: pancreas, nine times; transverse colon, eight times (once with formation of a gastrocolic fistula); spleen, six times; liver, five times and kidney, once. In eight cases the tumor had entered the pylorus and invaded the duodenum. Visceral metastasis occurred in cancer of the stomach as follows: liver, forty-four cases; ovaries, ten cases; suprarenals, six cases; kidneys, three cases; pancreas, three cases; spleen, two cases; heart, one case. In sixteen cases perforation, acute or subacute, had occurred. Analysis of 216 clinical specimens of gastric ulcer and gastric cancer showed that 9.5 per cent of the cases of chronic ulcer had become cancerous; or, approaching the matter from the other standpoint, 17 per cent of the cases of cancer had originated in a chronic ulcer.

New Method of Fitting Artificial Leg Socket.—Little describes a socket in the upper end of which is made a spiral groove of a little more than one turn. The groove is 1⅛ inches wide and one-eighth inch deep. The socket is made to fit, without any sock, as closely to the stump as is consistent with comfort, but the end of the stump is left free. This fit is so close that a partial vacuum is created when an attempt is made to withdraw the stump. To facilitate withdrawal a spring valve is fitted on the lower end of the socket, through which air may be admitted when it is desired to remove the leg. Attempts to pull off the limb by main force without opening the valve failed in all cases in which it was attempted.

2: 929-984 (Nov. 21) 1925

Nature of Man's Structural Imperfections. A. Keith.—p. 929.
Clockwork Control of Carrel-Dakin Treatment. C. W. Cathcart.—p. 933.
Pathologic Laboratory in General Practice. S. C. Dyke.—p. 934.
Tuberculous Disease of Spine. I. H. Gauvain.—p. 937.
Id. II. Operations for Spinal Fixation. G. W. Girdlestone.—p. 940.
Osgood-Schlatter Disease. R. Ollerenshaw.—p. 944.
Full-Term Multiple Pregnancy in Uterus Bicornis Bicollis. C. L. Houlton. —p. 946.
Renal Decapsulation in Acute Nephritis with Anuria. E. N. Russell.—p. 946.
*Extradural Spinal Meningeal Hemorrhage Without Gross Injury to Spinal Column. J. Reid and J. Kennedy.—p. 946.
Strangulation by Umbilical Cord. P. Henderson.—p. 947.

Extradural Spinal Meningeal Hemorrhage.—Reid and Kennedy report the case of a woman who sustained a slight bruise of her left arm as the result of a trivial accident while cycling. She went to work immediately after the accident, and the following day felt quite well, except for a little stiffness in her arm and slight pain in her back. Two days afterward she did not feel quite so well, and remained at home; on the next day, she felt much worse. Her expression was anxious, her face flushed, and she complained of pain in her back, which was most apparent when she attempted to rise after sitting down. The temperature was 101 F.; the pulse, 110; she was menstruating; the pupils were normal. There was no trouble with bowels or bladder. The knee jerks were present but not brisk. She walked perfectly well, and had come from her house, a distance of about one mile, apparently without much difficulty. The next morning there was flaccid paralysis of the right leg and partial paralysis of the left leg, but no vomiting. There were no bladder symptoms, no signs of bruising in the lumbar region or spinal damage of any sort; zones of ovarian hyperesthesia were well marked. Her condition gradually became worse, with flaccid paralysis of both legs, loss of all reflexes and sensation, and paralysis beginning in the arms. Next, the respiratory center began to fail. She was still conscious, but paralysis of the arms and legs was complete. Spinal puncture was considered, but deemed inadvisable owing to her condition. The postmortem examination revealed extensive extradural meningeal hemorrhage, extending the whole length of the cord up as far as the level of the third cervical vertebra, tuberculous foci in both tubes, in the lungs, and on the meninges in the occipital region; there was no sign of tuberculous foci in the meninges of the cord, no fracture or dislocation of the spinal column, and the actual vessel from which hemorrhage originated was not discovered.

2: 985-1040 (Nov. 28) 1925

*Successful Case of Embolectomy. G. Jefferson.—p. 985.
Method of Nasal Plastic Repair by Cartilage Graft. E. Watson-Williams.—p. 987.
*Ultraviolet Light and Antiscorbutic Vitamin. P. Eggleton and L. J. Harris.—p. 989.
*Cystic Dilatation of Common Bile Duct. N. H. Hill and R. A. Ramsay. —p. 991.

Treatment of Hemorrhoids by Galvanocautery. W. S. Whitcombe.—p. 992.
Acute Intestinal Obstruction. W. Taylor.—p. 993.
Id. II. W. S. Handley.—p. 995.
Id. III. D. P. D. Wilkie.—p. 996.
Intestinal Obstruction on Shipboard. G. H. Oriel.—p. 1004.
Operation for Extra-Uterine Gestation. A. C. Gillies.—p. 1005.
Epinephrin in Angioneurotic Conditions. J. R. Keith.—p. 1005.
Collosol Argentum in Treatment of Septicemia Following Abortion. J. Fine.—p. 1005.
Congenital Occlusion of First Part of Duodenum. G. Ralston.—p. 1005.
Temporary Blindness After Concussion. G. Anderson.—p. 1005.

Successful Embolectomy.—Jefferson reports the case of a man who was operated on for the cure of an umbilical hernia. The operation was a simple one and was of only fifteen minutes' duration. Twenty-six hours after the conclusion of the operation, the patient complained of a tingling sensation of "pins and needles" in the left arm, with increasing numbness. This rapidly developed into an intense pain, with complete paralysis of the arm. Lodgment of an embolus about the termination of the axillary or commencement of the brachial artery was diagnosed, and operation advised and accepted. The axillary artery was exposed to view and was seen to be pulsating freely. As a finger was passed downward along the vessel, a doughy substance was felt in its interior. This distal portion (brachial artery) was seen to be contracted, no larger than the normal radial, so that one passed from normal pulsating vessel, over a resistant portion, to a contracted and apparently empty vessel. A longitudinal incision, about 2 cm. long, was made into the vessel, and a dark piece of clot immediately protruded. This was gently pulled out with forceps, and proved to be 2 cm. long. The vessel was "milked" upward, and a much larger piece of clot, rather whiter and more granular in appearance, was extruded. The wound in the artery was sewed up with four fine silk stitches, the silk having been well soaked in liquid petrolatum and the operation field drenched with the same fluid. The patient stated that the pain had gone, and a few seconds later he could move his fingers, and the arm was becoming warmer. By the time the deep fascia and skin had been closed, full function was restored to the arm; the radial pulse was full and free; the color pinker than normal, and the grip strong. Two weeks after the man left the hospital he developed a thrombosis of the left femoral vein which gave little trouble, but three weeks after that the right leg became thrombosed, and has continued swollen and painful, though he can get about on it. There are some enlarged venous radicles on the lower abdomen, which suggest that the thrombosis has extended perhaps as high as the inferior vena cava. The umbilical hernia and the arm remain in excellent condition.

Ultraviolet Rays and Antiscorbutic Vitamin.—The results obtained by Eggleton and Harris indicate that while the effects of fat-soluble vitamin deficiency in, for example, an infant's diet can be remedied to some extent by exposing the infant (or the food) to sunlight, if one is to prevent scurvy one must rely on an adequate amount of vitamin C in the diet. Cow's milk may be deficient in this vitamin in winter, owing to the animal's inadequate stall diet. The observed increase of infantile scurvy in late winter probably results from this cause rather than from absence of sunlight, to which it has been attributed latterly without sufficient evidence.

Cystic Dilatation of Common Bile Duct.—Hill and Ramsay report the case of a child, aged 2 years and 3 months, who vomited every day, sometimes three times a day. The vomit was independent of food, and was chiefly nocturnal. She did not complain of any abdominal pain, and was not constipated. On the right side of the abdomen a large mass extended from beneath the liver to just above the crest of the ilium. It did not appear to move on respiration. The urine was faintly alkaline, and contained no albumin, sugar or bile salts or pigments. During the first week in the hospital the child vomited nine times. The bowels were not constipated, and the feces were of normal color. She lost weight. The blood was normal. The Wassermann reaction was negative. The vomiting improved with alkalis. An exploratory laparotomy was performed. The tumor was found to be globular and cystic, and about 4 inches in diameter. It lay below and separate from the liver. Clear, mucoid, pale yellow fluid was withdrawn. It contained no albumin, no urea, and no pancreatic ferments, but it did contain bile salts and bile pigments. The general condition of the child became steadily worse. She became weaker and weaker. Bile in various forms by the mouth was tried, and also reduction of fats in the diet, but no improvement took place. She died three weeks after the operation. Postmortem examination revealed a cystic swelling situated in front of the right kidney and behind the second part of the duodenum and the head and greater part of the body of the pancreas. It consisted of a cystic dilatation of the common bile duct, continued into the hepatic ducts and also into the cystic duct, where it joined the common bile duct.

2: 1041-1098 (Dec. 5) 1925

Symptoms and Signs of Abdominal Crises in Children. J. E. Adams.—p. 1041.
*Cholecystography. D. P. D. Wilkie and C. F. W. Illingworth.—p. 1046.
*Embryoma of Testis: Sudden Death from Thrombosis of Pulmonary Veins. A. E. Webb-Johnson.—p. 1048.
*Venesection and Blood Transfusion in Carbon Monoxide Poisoning. S. Gordon-Watson.—p. 1049.
*Uses and Abuses of Endocrine Therapy. I. W. L. Brown.—p. 1051.
*Id. S. Vincent.—p. 1053.
Id. H. Gardiner-Hill.—p. 1056.
Id. K. M. Walker.—p. 1058.
Id. H. W. C. Pines.—p. 1059.
Id. F. S. Langmead.—p. 1059.
*Erysipelas Treated by Foreign Blood Injection. N. Pines.—p. 1062.
*Early Symptom of Pregnancy. J. W. Tomb.—p. 1062.
Malaria Treatment of Tabes Dorsalis. N. F. Rowstron.—p. 1063.

Cholecystography.—Experience with fifty-three cases leads Wilkie and Illingworth to believe that cholecystography is a valuable aid in the diagnosis of gallbladder disease. When a gallbladder shadow is visible, if it is of normal density and contour, gross disease may be excluded but mild cholecystitis may be present. Gallstones casting no shadow in the ordinary roentgenogram may be shown up as negative shadows. Care must, however, be exercised not to mistake gas in the overlying colon for a gallstone. In cases in which a preliminary roentgenogram has shown doubtful shadows suggestive of gallstones, the accurate localization of the gallbladder gives confirmatory evidence, the method being thus comparable to pyelography in cases of renal calculus. The significant feature of cholecystography is that it is a means not only of demonstrating anatomicopathologic changes in the gallbladder, but also of testing the functional capacity of the organ.

Embryoma of Testis with Metastases.—Webb-Johnson relates the case of a man, aged 31, whose sole complaint was pain in the right lumbar region on movement. He was comfortable when in bed. Twenty-four hours after Johnson first saw him, he suddenly fell down and appeared to be in a dying condition. His appearance was that of a man receiving no oxygen into his circulation, although there was some shallow respiration. The pulse rapidly failed, and within about ten minutes of the appearance of symptoms he was dead. A postmortem examination was made, and since his symptoms were suggestive of pulmonary thrombosis or embolism, the thorax was examined first. Some antemortem thrombus was found in the pulmonary veins. A small, soft, almost gelatinous mass about the size of a chestnut was found in the posterior mediastinum, with the thoracic duct running through it. Exploration of the abdomen revealed the presence of a mass the size of a clenched fist in the right lumbar region, with the inferior vena cava running through it. The kidney was healthy. Palpation of the testis revealed no gross abnormality, but there was a small prominence about the size of a pea on the lower part of the body of the testis, near the globus minor of the epididymis. The testis was removed, and when it was cut across a small tumor, which proved to be an embryoma, was found. The lumbar glands were metastatic deposits from the tumor in the testis. The small mass in the posterior mediastinum was of a similar nature microscopically, and was evidently a metastasis which had been arrested on its way along the thoracic duct and had grown in that situation.

Treatment of Carbon Monoxide Poisoning.—Gordon-Watson cites six cases of carbon monoxide poisoning resulting from the explosion of ammonol, the explosive of Mills'

bombs, in a confined space. The patients were soldiers. The cases presented certain differences, each showing some special characteristic. Little effect was produced by oxygen. Artificial respiration, combined with the administration of oxygen, was not tried. In two of the worst cases transfusion was done with marked benefit, and the patients probably owe their lives to this measure being carried out. All six patients were bled, and all recovered.

Value of Endocrine Therapy.—Brown believes that thyroid, parathyroid, suprarenal, pituitary and pancreas extracts have therapeutic value, but he is skeptical as to the value of other gland extracts, except ovarian extract, with which he has obtained some good results in cases of ovarian inadequacy occurring in earlier life. He feels that the unreliable character of many of the commercial products may be due to their preparation from ovaries containing a corpus luteum.

Endocrine Therapy.—In Vincent's opinion, there are yet only two clear instances in which a true substitution therapy can be employed—certain lesions of the thyroid and of the pancreas; of these, only one, thyroid extract, is known to produce any effects when given by the mouth. Sooner or later, he says, the parathyroid and the ovary may be included in the same category, though, according to the best evidence, the preparations of these organs which are commonly employed are inactive. There are, however, two striking instances in which substances obtained from organs usually supposed to furnish internal secretions are valuable as drugs, apart altogether from the question of internal secretion and substitution therapy. These are epinephrine and preparations made from the posterior lobe of the pituitary body. And it is very doubtful whether any of these have any effects when administered by the mouth. Vincent says that out of the long list of organs and tissues advertised by the manufacturing druggists and prescribed by the "clinical endocrinologists" to be administered in the ordinary way by the mouth, only one —the thyroid—is of proved value.

Foreign Blood Injection in Erysipelas.—Pines reports that he treated successfully a case of severe erysipelas of the face in a baby, aged 12 months, by intramuscular injections of the father's blood. Three injections were made (into the buttock) of 15, 20 and 20 cc., respectively. The blood was withdrawn from the cephalic vein of the father in a room adjoining the sickroom, and injected immediately, with a fresh needle, into the child's buttock, the blood having no time to clot.

Early Sign of Pregnancy.—Tomb describes a very early and constant symptom of gestation which, he says, is not mentioned in any of the standard textbooks on obstetrics. In almost every case of pregnancy, as early as the first week after the first intermitted monthly period, the patient will admit, on inquiry, that the labia majora feel tense and swollen, especially when she walks or sits down on a firm seat, the sensation of fulness being accompanied by occasional dull aching pains in the labia. The symptom persists until about the end of the third month, when the uterus ceases to be a purely pelvic organ and rises into the abdomen.

International Journal of Psycho-Analysis, London

6: 367-530 (Oct.) 1925

Negation. S. Freud.—p. 367.
Psycho-Analysis of Sexual Habits. S. Ferenczi.—p. 372.
Psychology of Women in Relation to Functions of Reproduction. H. Deutsch.—p. 405.
Oral Erotism. S. Kempner.—p. 419.
Case of Ereuthophobia. T. Benedek.—p. 430.
Formation of Symbols. N. J. Symons.—p. 440.

Japan Medical World, Tokyo

5: 309-340 (Nov. 15) 1925

*Etiology of Typhus Fever and Measles. S. Kusama.—p. 309.
Blood Transfusion in Treatment of Malnutrition. R. Kosaka.—p. 312.
Historical Reviews of Study on Beriberi in Japan. A. Fujinami.—p. 314.
Photo-Activity of Vitamin A, Cholesterol, Fats and Other Substances by Ultraviolet Rays. S. Hamano.—p. 317.

Etiology of Typhus Fever.—Kusama describes a new bacillus seen by cultivating in ascitic bouillon the kidneys of Japanese monkeys which had been infected with three strains of the passage virus of typhus. The bacillus produced clinically and pathologically similar changes in Japanese monkeys as those produced by the passage virus, and there is cross immunity between this bacillus and the passage virus. Injections of a large quantity of this organism, which had been made avirulent or killed with phenol conferred immunity to monkeys against the passage virus. Therefore, Kusama believes that this new bacillus is the cause of typhus fever. It gives a negative complement fixation with the serum of convalescent monkeys and of typhus patients.

Journal of Tropical Medicine and Hygiene, London

28: 393-412 (Nov. 16) 1925

Diseases Observed in Clinic of Bangkok Central Hospital. R. W. Mendelson.—p. 393.
Schistosomum (?) Spindalis Montgomery in Zulu Schoolboy. F. G. Cawston.—p. 406.

Lancet, London

2: 1153-1208 (Dec. 5) 1925

Case for Unborn Child. T. W. Eden.—p. 1153.
Triple Puncture: Lumbar, Cisternal and Ventricular. J. Purves-Stewart.—p. 1159.
*Diabetes and Operation. Effect of Gastrojejunostomy in Case of Mild Diabetes Mellitus with Low Renal Threshold. O. Leyton.—p. 1162.
Multiple Electrical Stethoscope. J. Hoskin.—p. 1164.
Case of Acholuric Jaundice with Gallstones. H. H. Gleave and R. Platt.—p. 1165.
Ruptured Ectopic Gestation. E. Knowles.—p. 1166.

Gastrojejunostomy in a Diabetic Patient.—Leyton relates the case of a man, aged 37, who had very mild diabetes; his glycopyretic function was of 75 per cent efficiency, and diabetes would not have been diagnosed if he had not possessed a remarkably low renal threshold for sugar. At one time the urine contained quite a recognizable quantity of dextrose, while the blood sugar was below 0.12 per cent. The man also had a duodenal ulcer, for which a gastrojejunostomy was performed. The day after the operation, the urine contained a considerable quantity of sugar. This gradually diminished, until the eighth day, when the urine was free. The urine remained sugar free until the twenty-second day, when minute traces reappeared, but was quite free again later. The patient's carbohydrate metabolism had been depressed by the operation. The glycosuria was absent after operation in spite of a diet containing a fair amount of carbohydrate.

Medical Journal of Australia, Sydney

2: 545-572 (Nov. 7) 1925

Roentgen Rays as Aid in Diagnosis of Pathologic Gallbladder. A. S. Johnson.—p. 545.
Toxemias of Pregnancy. J. L. Jona.—p. 548.
Infectious Mononucleosis or Glandular Fever. J. G. Hislop.—p. 557.

2: 573-596 (Nov. 14) 1925

Diagnosis of Normal Heart. H. H. Turnbull.—p. 573.
Indications for Intervention During Pregnancy. R. N. Wawn.—p. 577.

Medical Journal of South Africa, Johannesburg

21: 59-90 (Oct.) 1925

Nutritive Value of Mealie Meal and Kaffir Corn. A. D. Stammers.—p. 62.
Some Common Disabilities of Feet. F. P. Fouche.—p. 65.
Tic Douloureux—Alcohol Injection of Gasserian Ganglion. I. J. Block.—p. 68.
Roentgen-Ray Treatment in Dermatology. L. E. Ellis.—p. 69.
*Vulvovaginitis in Children: Sixty-Three Cases. A. R. Fraser.—p. 73.
Law and Doctor in South Africa. H. De Villiers.—p. 80.

Vulvovaginitis in Children.—The gonococcus was demonstrated by Fraser in the vulva and vagina in fifty-four out of sixty-three cases. The gonococcus was demonstrated in the rectum in fifty-nine cases. Symptoms were entirely vulvovaginal. The average age of the patients in this series was 4.7 years. In only one case was there any upward spread of the infection with resulting peritonitis. No other complication was noted. Investigation of the origin of the disease proved unsatisfactory. In twenty-seven cases, no origin could be traced. In eleven cases there was some evidence of infection of the parents, while in seventeen cases servants were implicated. Three patients traced contamination to the lavatory seats of railway trains following long railway journeys. In only one case was there attempted rape.

National Medical Journal of China, Shanghai

11: 309-396 (Oct.) 1925

Relation of Dental Hygiene to Health and Efficiency. B. K. Wong. —p. 309.
Sanitary Survey of Tsunhwa. C. Ku'ei.—p. 313.
Public Health Report on Canton, China. L. Ting-An.—p. 324.

South African Medical Record, Cape Town

23: 473-496 (Nov. 14) 1925

Anthropology. E. C. Randell.—p. 473.
Optic Nerve Aspect of Diagnosis of Intracranial Tumors. D. J. Wood. —p. 475.
Irradiation in Malignant Disease. F. H. Dommisse.—p. 478.
Calcium Therapy. J. Drummond.—p. 480.

Tubercle, London

7: 105-160 (Dec.) 1925

*Serology of Bovine Type of Tubercle Bacillus. W. M. Cumming. —p. 105.
Treatment of Tuberculosis: Memorandum 37. T. G. T. Hebert.—p. 111.
*Case of Tuberculous Empyema, with Recovery. A. J. S. Pinchin and N. E. D. Cartledge.—p. 115.
*Family History in Relation to Prognosis of Pulmonary Tuberculosis. A. P. Ford.—p. 117.
Results of Intracutaneous Tuberculin Test in Ontario Survey of School and Preschool Children. J. H. Elliott.—p. 122.

Serology of Bovine Type of Tubercle Bacillus.—An investigation was undertaken by Cumming to supplement the previous work of Tulloch and his collaborators, and verify their contention that human and bovine tubercle bacilli are identical serologically. The series investigated consisted of thirty-one bovine strains isolated from animal lesions—all except four isolated by direct cultural methods—and twenty-two bovine strains isolated from human lesions, all except three by direct cultural reactions and in their virulence. The investigation substantiated the assertions made by a number of investigators that tubercle bacilli of the human and bovine types are not distinguishable by agglutination or absorption of agglutinins.

Treatment of Interlobar Tuberculous Empyema.—In this case of interlobar empyema, Pinchin and Cartledge explored the chest in the third left interspace in the anterior axillary line. Thick greenish yellow pus was obtained containing tubercle bacilli but no other organisms. The following day 10 cc. of a liquefying solution containing thymol, camphor and sulphuric ether was injected at the site of previous exploration, care being taken to aspirate pus first. Two days later, aspiration was undertaken with a Potain aspirator. A second injection of the liquefying solution was made about a week later. The patient made a good recovery.

Family History in Relation to Prognosis of Tuberculosis.—An investigation of the history of more than a thousand cases of pulmonary tuberculosis was undertaken by Ford in order to ascertain whether the family history had any relation to the prognosis of the disease. There was no family history in 844 cases. In 139 cases there was a direct maternal or paternal history or both, and in seventy-nine cases there was an indirect history. Patients whose mothers suffered from tuberculosis appear to do much better than the others.

Annales de l'Institut Pasteur, Paris

39: 875-924 (Nov.) 1925

*Production of Diphtheria Toxin. M. S. Schmidt.—p. 875.
*The Plague Bacillus and Carbohydrates. R. Pons.—p. 884.
Skin Vaccination and Skin Immunity in Anthrax. Newodoff.—p. 888.
Experimental Research on Anthrax. C. Hruska.—p. 897.
*Reaction of Cells and Phagocytosis. Metalnikov and Toumanoff.—p. 909.

Production of Diphtheria Toxin in the Martin Culture Medium.—Schmidt obtained excellent results with Martin's bouillon which he has used exclusively for over a year in production of diphtheria toxin. This is the culture medium used at the Institut Pasteur at Paris. The toxic and antigenic properties of the toxin appeared superior to those of toxins prepared with Witte peptone. The toxic and flocculation properties seemed to be uniform in all the toxins prepared with the Martin culture medium.

Action of Plague Bacillus on Carbohydrates.—Pons' research was made on sixteen strains of plague bacilli isolated from clinical cases. It showed that while other bacilli of the pasteurella group induce fermentation of saccharose as well as of lactose, the plague bacillus has no fermentation action on either of them, but always induces fermentation of maltose and glucose, although without production of gas.

The Reaction of Cells and Phagocytosis.—Metalnikov and Toumanoff reiterate that immunity is based on the defensive action of the cells; they have been studying this biologic reaction in the cells of the abdominal cavity. They injected a bacterial culture or carmine into the peritoneum of guinea-pigs. The earliest response was on the part of the microphages, the maximal increase occurring three hours after the injection. The proportion of macrophages was highest on the third day after the injection, and of the lymphocytes on the fifth day. The reactivity to different agents, although similar, proved nevertheless specific or individual in the different cells and different animals. Phagocytosis was manifest in vaccinated animals earlier than in the controls, demonstrating immunization of the cells. The more they are sensitized, the more rapid and intense their reaction to defend the organism.

Bulletin de l'Académie de Médecine, Paris

94: 1075-1094 (Dec. 1) 1925

Gastric and Duodenal Ulcer in French China. Le R. des Barres. —p. 1079.
*Treatment of Surgical Tuberculosis. P. Delbet.—p. 1083.
Homogenous Bone Grafts. L. Imbert.—p. 1086.
More Than One Type of Leprosy Bacillus? E. Marchoux.—p. 1091.

Iodized Oil in Treatment of Surgical Tuberculosis.—Delbet reports the results in fourteen cases of surgical tuberculosis, treated personally by Finikoff. The latter used a 10 per cent mixture of tincture of iodin in oil for intramuscular injections, given at five or seven days' intervals, at points remote from the lesion. The first injections contained each 10 cc.; the next 20 cc. The treatment lasted six or eight months. Calcium chloride was administered simultaneously by the mouth. In cases with tuberculous abscesses or multiple fistulas, tuberculous hydrarthrosis or arthritis, a clinical cure resulted under Finikoff's treatment. Thus an apparently inevitable amputation was averted in certain patients. He aims to enhance the lipolytic power of the mononuclears and the proteolytic power of the polymorphonuclears.

Revue Médicale de la Suisse Romande, Geneva

45: 793-856 (Nov. 25) 1925

Iodized Oil in Roentgenography of Respiratory Tract. Guyot.—p. 793.
Erythrodermia and Jaundice After Arsenicals. Lassueur.—p. 817.
Cancer of Body of the Uterus and Radium. R. Chapuis.—p. 822.
*The Pathology of Primary Syphilis. J. Golay.—p. 832.

The Pathology of Primary Syphilis.—Golay reiterates that acquired syphilis practically always begins with a chancre. It is lacking only in cases of congenital syphilis, and in women contaminated by the fetus, in the course of the pregnancy. The lymph system is the essential route of invasion of the organism by the spirochete. Penetration of the spirochete into the blood circulation occurs ten or fifteen days before the appearance of the roseola. Golay accepts that the local or skin immunity is established before the general immunity. A positive Wassermann test does not testify to septicemia, nor to general immunity of the organism, but merely to a certain amount of spirochete toxins in the blood. In the patients treated in the first ten days after the appearance of the chancre, recurrences were noted in 16 per cent; in those treated from the tenth to the twentieth day, in 34 per cent; from the twentieth to the thirtieth day, in 45 per cent; from the thirtieth to thirty-fifth day, in 60 per cent. The appearance of a positive Wassermann reaction in the primary stage of syphilis is not an important date from the standpoint of pathology or therapeutics, as it is not connected with either the septicemia or the general immunity.

Journal de Chirurgie, Paris

26: 257-368, 1925

*Serous Cysts in the Kidney. M. Laquière.—p. 257.

Serous Cysts in the Kidneys and Conservative Treatment.—Laquière reports five cases of serous cysts in the kidney in women between 31 and 67, in four of which he applied conservative measures. In the fifth case the kidney had to be removed as the cyst had calcified and the hemorrhage at the

operation could not be arrested otherwise. The diagnosis in this case had long been Pott's disease. Excision of the cyst in the other cases was followed by complete recovery. One had been noted for twelve years and was as large as two fists when removed. Examination a year later showed no evidence of renal insufficiency.

26: 369-480, 1925

*Exophthalmic Goiter. A. Troell.—p. 369.

Diagnosis and Treatment of Exophthalmic Goiter.—Troell analyzes the outcome in forty-one cases of exophthalmic goiter and in other forms of goiter, to a total of 100 cases, representing 139 operations. Patients with adenomatous goiters and symptoms showing toxic action derive great benefit from the intervention, as the risk in these cases is minimal while the mechanical and disfiguring disturbances are liable to be great. He remarks that these patients run scarcely any risk of the condition developing into grave exophthalmic goiter, but the basal metabolism should be investigated before undertaking any operation. With exophthalmic goiter of the diffuse type, under watchful waiting, repeatedly recording the basal metabolic rate, temporizing may be advisable at first, but if the rate rises and the symptoms are severe, delay only enhances the dangers of the operation. Cautious intervention in several stages gives notably better results than a single radical operation. The exophthalmos is no criterion as to the severity of the case; the metabolic rate may be influenced by worry. The systolic blood pressure is only moderately increased in exophthalmic goiter, but an increase in the differential pressure seems to be constant, and is valuable in differential diagnosis as the systolic blood pressure is not high with adenomatous or nontoxic goiters. The blood pressure usually parallels the basal metabolism, but the influence of age must be taken into account, as also the weight and the general nervous condition. If the extremely nervous condition cannot be tranquilized or if the weight continues to decline, he refrains from operating, regardless of the metabolism. On the other hand, he has operated successfully in cases with basal metabolism rate up to 105 per cent.

Presse Médicale, Paris

33: 1601-1616 (Dec. 5) 1925

*Duchenne's Contributions to Neurology. G. Guillain.—p. 1601.

Duchenne's Contributions to Neurology.—Guillain devoted the first lecture in his university course to the French neurologist G. B. Duchenne, 1806-1875. He cited Duchenne's pioneer work on the value of localized electric reactions in the prognosis of paralysis. Also his research on anterior poliomyelitis; acute spinal paralysis in adults; pseudohypertrophic muscular paralysis; progressive locomotor ataxia; and his study of the rôle of the facial muscles in the expression of passions. Duchenne also opened the way for modern electrotherapy. He was never officially connected with any medical faculty.

Revue de Chirurgie, Paris

63: 563-639, 1925

*Radiologic Examination of the Uterus. P. Mocquot.—p. 563.
*Primary Suture for Wounds of the Skull. M. Béraud.—p. 576. C'en.
*Sympathectomy in Treatment of Epilepsy. V. Bojovitch.—p. 608.
Tuberculous Nature of Certain Hydroceles. Cartier and Godard.—p. 617.

Radiography of the Uterus.—Mocquot describes with illustrations his technic for filling the cavity of the uterus with iodized oil, and various instances of its successful application. In one case, for example, the uterus felt hard and round, and old parenchymatous metritis was accepted as the explanation of the repeated uterine hemorrhages, until roentgen examination with the opaque oil revealed a large indentation on one side. This corrected the diagnosis to tumor, and the myoma was easily enucleated. His three years of research have apparently confirmed the harmlessness of the procedure with ordinary caution; there was never a trace of a peritoneal reaction even when the oil had passed through the tubes into the peritoneum.

The Fate After Trephining.—Béraud's reexamination of seventy-two patients that had been trephined for war wounds has justified his confidence in primary suture and the ultimate outcome. He warns that with skull wounds, the lesions almost invariably surpassed what had been anticipated. Devitalized tissue should be cut away with a lavish hand, every trace of a foreign body removed, and iodin applied, and then the large flap can be replaced and sutured. With early trephining and primary suture, the death rate was only 12.5 per cent, and those that survived the third month are still living, nine years later. The functional disturbances generally subsided in time. The recovery was complete in 20 per cent of his total cases.

Sympathectomy in Treatment of Epilepsy.—Bojovitch describes the complete success of decortication of the carotid artery in three of seven cases of essential epilepsy, with no return of the seizures, and remarkable improvement in the four other cases. All had previously been refractory to medical treatment, and all treatment was suppressed after the sympathectomy according to Leriche's technic. In the cured cases, the epilepsy was of twenty years' standing or from childhood; the patients were all between the ages of 23 and 32. A 5 cm. segment of the adventitia was removed through an incision as for ligation of the common carotid.

Schweizerische medizinische Wochenschrift, Basel

55: 1105-1128 (Dec. 3) 1925

*The Infant's Stomach. Hotz.—p. 1105.
Roentgen Injuries of Skin. G. Miescher.—p. 1111.
"Dold Test." H. Dold.—p. 1118.
Social Service in Hospitals. G. Ichok.—p. 1119.

The Infant's Stomach.—Hotz made a roentgen study of the stomach in infants. Thick food provokes a peristole, and the stomach appears small. Fluids inhibit the peristole and favor swallowing of air. The latter is more pronounced with drinking from the breast or bottle than with feeding with a spoon. The majority of infants who vomit have big stomachs with a large air bubble. Thickening of the food and discarding the bottle or breast feeding reduce the size of the stomach, and the vomiting.

55: 1129-1148 (Dec. 10) 1925

Cancer of the Uterus. P. Hüssy.—p. 1129.
*Contusions. Rusca.—p. 1132.
Nutritional Problems. J. Abelin and J. Waldsburger.—p. 1134.
Acid-Base Balance of the Blood. R. Feissly.—p. 1140.

Contusions.—Rusca examined animals killed by the gas pressure in explosions of dynamite. The lungs appear to be the most sensitive organ. The hemorrhages were localized around the arteries and bronchi—in the tissue connecting the easily compressed alveoli and the stiff bronchi.

Archivio Italiano di Derm., Sifil. e Ven., Bologna

1: 1-96, 1925. Partial Index

Fibrosarcoma in Skin of Knee in Small Boy. G. Bertaccini.—p. 1.
*Gilchrist's Dermatitis. U. Rebaudi.—p. 10.
Anemic Nevus; Two Cases. N. Bagnoli.—p. 52.

Treatment of Gilchrist's Blastomycetic Dermatitis.—Rebaudi's patient was a man, aged 50. The lesion covered both sides of the face, extending on forehead and neck, and long proved refractory to all measures when the man applied for treatment the fourth year. It finally yielded to local applications of an autogenous bouillon culture of the cryptococcus involved.

Pediatria, Naples

33: 1253-1308 (Dec. 1) 1925

Blood Fat in Fasting Children. L. Spolverini and A. Vanelli.—p. 1253.
Nitrogen Metabolism. Ivo Nasso.—p. 1264.
*Alimentary and Epinephrine Hyperglycemia. L. Auricchio.—p. 1274.
Complement Fixation in Tuberculosis. S. De Villa.—p. 1279.
Congenital Amyotonia. M. Miraglia.—p. 1285.
Congenital Diaphragmatic Hernia. A. Dondarini.—p. 1293.

Alimentary and Epinephrine Hyperglycemia.—Auricchio found a similar reaction to ingestion of glucose and to injection of epinephrine in the new-born as in adults.

Policlinico, Rome

32: 1665-1704 (Nov. 30) 1925

Diagnosis of Amebic Dysentery. P. Alessandrini.—p. 1665.
Hysterical Simulation of Nephrolithiasis. G. Cioni.—p. 1669.

32: 537-584 (Nov. 15) 1925. Surgical Section

Chronic Duodenal Occlusion. V. Ghiron.—p. 537.
Angioma of the Dura. G. Gucci.—p. 544.
Secondary Jejunal Ulcers. S. Gussio.—p. 557.
Primary Sarcoma of the Spleen in Young Man. G. Petta.—p. 576.

Riforma Medica, Naples

41: 1057-1084 (Nov. 9) 1925. The Internal Medicine Congress

*Function Tests of Respiratory Apparatus. G. Boeri and others.—p. 1060.
*Cirrhosis of the Liver. L. D'Amato and others.—p. 1063.
*Treatment of Exophthalmic Goiter. A. Ferrata and others.—p. 1071.

41: 1109-1132 (Nov. 23) 1925

Fatal Complications of Mumps. M. Barbato.—p. 1109.
Pregnancy Toxemia. S. Delle Chiaje.—p. 1112.
The Factors in the Therapeutic Action of the Continuous Bath. I. Sacchetto.—p. 1122.
Strangulated Hernia in Infant. Andrea Martella.—p. 1124.

Topics of the Day in Internal Medicine.—The transactions of the thirty-first annual meeting of the Italian Society of Internal Medicine were reviewed in the letter from Italy in THE JOURNAL, Jan. 2, 1926, p. 51.

Ars Médica, Barcelona

1: 73-108 (Sept.) 1925

Experiences with Manoukhine's Method of Treating Pulmonary Tuberculosis. R. Dargallo.—p. 73.
Conservative Treatment of Adnexitis. M. Bonafonte.—p. 80.
*Microtest for Nitrogen. Grifols Roig and Hellmuth Hempel.—p. 84.
Stones in Female Bladder. A. Otero Sánchez.—p. 86.
Drainage of the Peritoneum. F. Domenech Alsina.—p. 93.
Present Status of Endometriomas. J. Comas Camps.—p. 96.
Present Status of Ovarian Implants. J. Vanrell.—p. 97.

Colorimeter Microtest for Nitrogen.—The method described by Grifols Roig and Hellmuth Hempel is based on the conversion of mercuric sulphate (bisulfato de mercurio) into the double salt HgI_2—2KI and into K_2SO_4. These bodies do not affect the tint of the reaction to ammonia according to Nessler's technic. The sulphate acts as a catalyzer, and the color reaction can thus be read directly.

Boletin de la Soc. de Cirugía de Chile, Santiago

3: 93-119, 1925. Partial Index

Suppuration in a Goiter. M. Matus.—p. 93.
*Epidural Anesthesia. J. L. Bisquertt and W. E. Coutts.—p. 96.
*Polycystic Kidney. Abel Fuentealba L.—p. 100.
*Embolectomy. J. Rodriguez and A. Conntant.—p. 115.

Epidural Anesthesia.—Bisquertt and Coutts have found a 1 per cent solution of procaine effectual for anesthesia in operations on the prostate, urethra, and abscesses in the inguinal region, etc. There was no general or local reaction to the epidural injections at this concentration, and no postoperative vomiting. They have applied the method in twenty cases to date and have been impressed with its absolute harmlessness.

Polycystic Kidney.—In Fuentealba's case the laparotomy revealed a number of cysts, between the loops of the intestines, all growing from the left kidney except one blood cyst in the iliac fossa. As the kidney was in complete cystic degeneration, he removed it, and the patient was freed at one stroke from the recurring pains, repeated vomiting, sense of oppression and nervousness.

Embolectomy.—Rodriguez and Conntant removed an embolus from the right femoral artery, and the impending gangrene was averted. The embolus was adherent to the walls of the artery, and extended beyond the accessible segments so that it was not completely cleared out. But the preceding conditions in the circulation were restored and there was no atrophy in the muscles on reexamination three months later. The man, aged 65, had chronic aortitis and cardiac insufficiency.

Semana Médica, Buenos Aires

2: 821-876 (Oct. 1) 1925

Fatal Sclerema in Female Infant. E. Foster and V. Giustinian.—p. 821.
Primary Pyopneumocyst in Liver. M. Cieza Rodriguez.—p. 824.
Medical Consultant in Physical Training. G. Grasso.—p. 827.
History of Medicine in Argentina. J. Túmburus.—p. 830.
The Argentine Pharmacopeia. A. J. Bandoni.—p. 853.
Irregular Outline of Pubis in Diagnosis of Syphilis. Heuser.—p. 862.

Archiv für Schiffs- und Tropenhygiene, etc., Hamburg

29: 459-622 (Oct. 15) 1925. Partial Index

*The Fight Against Malaria. B. Nocht.—p. 461.
*Isolation of Hookworm Larvae. F. Fülleborn.—p. 470.
Hemolysins in Malaria. W. Kikuth.—p. 560.
Changes in Brain and Kidneys Due to Action of Ascaris and Strongyloides Larvae. S. Yamaguchi.—p. 589.

The Malaria Question.—Nocht remarks that the work of the malaria commission of the League of Nations has now established a basis for comparison with conditions later, so that in future it will be possible to estimate the effects of the prophylactic measures applied. The drainage of extensive areas of marshes in Italy has not reduced the mosquito population or banished malaria. The alleged preference of mosquitoes for cattle barns rather than houses, he ascribes to the greater moisture in the air. The only European region that has actually been freed of malaria is a certain part of Dalmatia. Water is scarce and is collected in deep protected cisterns. The scanty shallow pools were sprayed with oil. The entire region has thus been freed of mosquitoes and of malaria. Conditions have also been favorable for extermination of malaria in Palestine, he adds. There is no rainfall during the malaria season, and extensive regions have been cleared of mosquitoes. The malaria commission concluded its work by advising to limit the campaign against mosquitoes to certain regions where conditions favor it. Planless spraying with oil, draining, breeding of fishes, are only throwing money away. A single overlooked breeding place may infect a whole village. The main reliance must be on thorough treatment and after-treatment of every case of malaria, and discovery and treatment of every one infected with malaria (house-to-house visitation, examination of school children, etc.), and education of the public to seek out and destroy the mosquitoes that lurk in the bedrooms and living rooms, and to protect against mosquitoes by nets and screens and white walls. Quinine as a prophylactic is advised only in exceptional cases and with the strictest surveillance. In rooms without smooth ceilings, the walls and ceilings can be sprayed regularly every eight or ten days (Giemsa). One man can thus spray a whole village in half a day. Chagas has found in Brazil that burning sulphur every eight or ten days stupefies the mosquitoes and they fall an easy prey to their natural enemies. It is inadvisable to use a spray that would drive them permanently away from the rooms, as they would only seek less accessible quarters.

Isolation of Hookworm and Other Larvae.—Fülleborn places the earth suspected of harboring hookworm in a cylinder, the bottom of which is formed of agar which is heated from below. The larvae are attracted by the heat and burrow into the agar. He gives an illustrated description of this "thermotaxis enrichment" method.

Deutsche medizinische Wochenschrift, Berlin

51: 2017-2058 (Dec. 4) 1925

Protection Against Light. L. Freund.—p. 2017.
So-Called Traumatic Neuroses. E. Stier.—p. 2020. C'tn.
*The Cerebellum and the Internal Ear. E. Wodak and B. Fischer.—p. 2022.
Liver—Syphilis—Arsphenamine. W. B. Meyer.—p. 2024. C'td.
*Blood Volume in Polycythemia. W. Lampe.—p. 2025.
Vegetative Neurosis in Infants. E. Weitbrecht.—p. 2027.
*Adsorption of Alkaloids in Pills. T. Sabalitschka.—p. 2029.
The Constitution and Peptic Ulcer. W. Ruhmann.—p. 2032.
Cultivation of Spirochetes of Relapsing Fever. E. Illert.—p. 2033.
*Palpation in Pyelitis. Jungmann.—p. 2033.
Progress of Psychiatry. Bostroem.—p. 2036.
Occupational Hygiene. R. Müller.—p. 2039. C'tn.
Social Service in Hospitals. F. Goldmann.—p. 2040.
Medical Expert Testimony. P. Horn.—p. 2042.
Professional Secrecy. F. Riss.—p. 2044.
Venereal Disease in Children. H. Davidsohn.—p. 2055. C'cn.

The Cerebellum and the Internal Ear.—Wodak and Fischer conclude from Pötzl and Schloffer's case of resection of the cerebellum (summarized in these columns, Nov. 21, 1925, page 1680), that the neocerebellum, at least, is not absolutely necessary for the vestibular tonic reflexes. The cerebrum seems to be able to substitute another mechanism.

Blood Volume in Polycythemia.—Lampe reports six cases of Vaquez' disease. The total volume of plasma may be low,

normal or above normal. The average size of the erythrocytes seems to depend on their number. With normal or only slightly increased numbers per cubic millimeter, the size is large (up to 30 per cent above normal). This, together with a decreased amount of blood plasma, may be the only hematologic sign of polycythemia. When the number of the erythrocytes increases, their volume decreases—sometimes below normal. The hemoglobin index was always below 1.

Adsorption of Alkaloids in Pills.—Sabalitschka confirms that licorice powder, as used in pills, absorbs a considerable amount of alkaloids. Even after extraction with a weak solution of hydrochloric acid, the licorice retained from 25 to 44 per cent of the atropin or strychnin. Thus the dosage is quite uncertain. A mass made from dried yeast proved much more suitable for making pills than licorice powder.

Palpation in Pyelitis.—Jungmann observed a swelling of the lumbar region in two cases of pyelitis.

Klinische Wochenschrift, Berlin

4: 2329-2376 (Dec. 3) 1925

General Biology. M. Hartmann.—p. 2329.
*The Dick Test. H. Kleinschmidt.—p. 2334.
*Lipoid Arc of the Drum-Head. J. Berberich.—p. 2335.
Penetration of Dyes into the Amniotic Fluid. W. Jülich.—p. 2337.
*Water Metabolism. I. H. Marx.—p. 2339.
*Transplantation and Vital Staining. Lehmann and Tammann.—p. 2342.
*Rickets and the Constitution. A. Eckstein and H. Paffrath.—p. 2343.
*Colon Bacillus Agglutination. V. Hoffmann and K. L. Pesch.—p. 2345.
Resistance of the Skin in Pregnancy. H. Hinselmann.—p. 2346.
"Importance of Lipoids." Rewald.—p. 2349. Reply. Rubner.—p. 2349.
*Chemical Diagnosis of Cancer. H. J. Fuchs.—p. 2350.
Bio-Electric Difference of Potential. A. Liechti.—p. 2350.
*Viability of Typhoid Bacilli. H. Demme.—p. 2351.
Feer's Neurosis of the Vegetative System. L. Ihm.—p. 2351.
Functional Anomalies of Smooth Muscles. L. Lichtwitz.—p. 2353.
Paravertebral Injection. F. Mandl.—p. 2356.
Blood Volume. Seyderhelm and W. Lampe.—p. 2359.
Aim of Insulin Treatment. B. Molnár.—p. 2374.
The International Public Health Service. A. Ostermann.—p. 2375.

The Dick Test.—Kleinschmidt tested for toxins the streptococci obtained from five scarlet fever patients and four with streptococcus septicemia. Four of the former and one of the latter strains produced toxins which seemed to be identical. He confirms the neutralizing action of the serum from Dick-negative subjects. About one quarter of serum added to the toxin solution neutralized it. Commercial antistreptococcus serums (Höchst) have failed so far in this respect. He made the Dick test in measles, and found only seven positives among twenty-two tested. The results were analogous to the tuberculin anergy observed in measles.

Lipoid Arc of the Drum-Head.—Berberich examined histochemically the white crescent on the ear drum which has been described in elderly subjects. It contains esters of cholesterol and neutral fats, and is perfectly analogous to the lipoid arc of the cornea. He found it in more than 200 patients, of all ages, who had hypercholesteremia. Recurring occlusion from cerumen and presbycusis are the most frequent ear disturbances connected with hypercholesteremia. Tinnitus in patients with hypertension is also probably in some relation to it. A lipoid arc of the drum-head and of the cornea can be found in almost every case of hypertension.

Water Metabolism.—Marx determined the hemoglobin content of the blood at short intervals after ingestion of water. He found a rapid dilution of blood followed by a relative inspissation and a secondary dilution. This occurred even after small quantities (50 cc.) of water, although the dilution of the blood (7 per cent) showed that almost 350 cc. of fluid had entered the circulation. The reaction was more pronounced after drinking a 0.5 per cent salt solution, and it was negative after solid food.

Transplantation and Vital Staining.—Lehmann and Tammann had negative results with simple homoioplastic skin grafts in white mice. The results were much better when they had blocked the reticulo-endothelial cells of the host by injection of trypan blue.

Rickets and the Constitution.—Eckstein and Paffrath's observations in rats speak for a congenital predisposition to rickets. It was transmitted by the female.

Colon Bacillus Agglutination.—Hoffmann and Pesch found the agglutination test of no value for diagnosis of infection by colon bacilli.

Chemical Diagnosis of Cancer.—Fuchs examined ninety-two cancer patients, and forty-eight controls. The serum from every patient with a malignant tumor digested heated human fibrin. The controls were invariably negative.

Viability of Typhoid Bacilli.—Demme found typhoid bacilli viable in various preparations of sour milk such as kefir and yoghurt. He used a combination of bile enrichment and filter paper capillary attraction for cultivation of the bacilli.

Medizinische Klinik, Berlin

21: 1829-1868 (Dec. 4) 1925

*Malaria Treatment of Paralysis. M. Nonne.—p. 1829.
*Water Metabolism in Fever. E. Pribram.—p. 1832.
*Occupational Injuries of the Eyes. A. Elschnig.—p. 1835.
*Symposium on Treatment of Syphilis. Jadassohn and others.—p. 1837.
Incarceration of Diverticulum of the Sigmoid. H. Finsterer.—p. 1841.
*Nicotine in Encephalitic Tremor. G. Herrmann and E. Wotke.—p. 1842.
Specific Treatment of Tuberculosis. W. Neumann.—p. 1844.
Idiopathic Osteopsathyrosis. F. Schwarz.—p. 1846.
*Polycythemia and Childbirth. E. Paulicek.—p. 1848.
Complement Fixation in Tuberculosis. Frisch and Starlinger.—p. 1849.
Standardization of Thyroid Preparations. M. Neve.—p. 1852.
Roentgen Reduction of Enlarged Glands. H. Holfelder.—p. 1854.
Recent Progress in Orthopedics. S. Peltesohn.—p. 1856.
Occupational Diseases Should Rank with Industrial Accidents. W. Hanauer.—p. 1864.

Malaria Treatment of Paralysis.—Nonne reviews his 450 cases of general paralysis and thirty of tabes treated with malaria infection. His opinion on the results in tabes is reserved. The 30 per cent of cures in progressive paralysis which he noted decide him in favor of malaria treatment as the method of choice in paresis. The mortality was almost 8 per cent, and especially high in patients inoculated by mistake with the tropical form. He has seen about equally good results when supplementing the malaria treatment with arsphenamin, mercury or bismuth as he saw when using the malaria treatment alone.

Water Metabolism in Fever.—Přibram attributes the retention of water in fever to the increased affinity of colloids for water. This is due partly directly to the higher temperature, partly indirectly to the increased alkalinity of the blood and perhaps of the tissues. The cleavage of the large molecules of proteins is another contributing factor to the retention of water in the tissues. Sodium chloride is retained together with the water. If the water requirement is not covered by drinking, the muscles, skin and mucous membranes supply it. The muscles lose with the water potassium, which is increased in the urine. The loss of potassium entails a lowered affinity of muscles for the water. Sahli's and Valentini's recommendation of large amounts of fluids in fever seems to be rational.

Occupational Injuries of the Eyes.—Elschnig reviews a large material concerned with occupational injuries of the eyes. The frequency of accidents to the eyes is much larger on Saturdays than on Tuesdays. An ointment containing oxycyanide of mercury (1:5,000) should be applied immediately, before the patient goes to the physician. The protective eye glasses are not ideal, but necessary. A physician should enlighten the workers repeatedly as to the dangers.

Symposium on Treatment of Syphilis.—The editors publish the opinion of prominent syphilologists on the various aspects of prevention and treatment of syphilis.

Nicotine in Encephalitic Tremor.—Herrmann and Wotke's patient, a young man suffering from postencephalitic tremor, without rigidity, was able to write after smoking a cigarette. Nicotine tartrate had no effect in doses of 2 mg. Injections of an infusion from 0.1-0.2 Gm. of tobacco produced the same effect as smoking. The action was similar, although not so perfect, in eleven of fourteen other cases. Two of the three who were not benefited had true paralysis agitans. Rigidity was not influenced.

Polycythemia and Childbirth.—Paulicek reports on a normal labor in a woman suffering for seven years from polycythemia (Vaquez type). The blood condition improved for some time after delivery.

Münchener medizinische Wochenschrift, Munich

72: 2089-2132 (Dec. 4) 1925

*Biologic Significance of Lipoids. H. Much.—p. 2089.
*Fragility of Erythrocytes in Syphilis. E. Brill.—p. 2091.
Congenital Syphilis of the Aorta, and Transmission by the Sperma. T. Hausmann.—p. 2093. C'tn.
*Gas Metabolism. H. W. Knipping.—p. 2095.
Feeding with Silo Milk. Oertel and F. Kieferle.—p. 2097.
Athletics and the Metabolism. P. Schenk.—p. 2100. C'cn.
Bed Rest in Heart Disease. K. Grassmann.—p. 2104.
*Scoliosis. J. Fraenkel.—p. 2107.
Fight Against Tuberculosis in Children. Klein.—p. 2113.

Biologic Significance of Lipoids.—Much reviews the history of the problem. He published fifteen years ago the proofs that lipoids are capable of inducing the formation of antibodies; that they act more strongly in combination with proteins, and that only certain fats can act as antigens, and even then only in combination with proteins. Most of these facts have been rediscovered lately by Landsteiner, Sachs and Klopstock. While, a short time ago, he was the only one who claimed antigenic properties for lipoids, he now begins to fight for acceptance of such properties for pure proteins, which he claims to have also proven.

Sedimentation Speed and Fragility of Erythrocytes in Syphilis.—Brill found in the majority of patients with secondary syphilis an accelerated speed of sedimentation and increased osmotic resistance of the erythrocytes.

Gas Metabolism.—Knipping absorbs the expired carbon dioxide in potassium hydrate, and measures it in the spirometer, after driving it out with sulphuric acid. By this method the respiratory quotient may be easily determined with the clinical spirometers.

Scoliosis.—Fraenkel describes the details and the encouraging results of treatment of scoliosis with rest in a plaster cast-bed, alternating with special exercises.

Wiener Archiv für innere Medizin, Vienna

11: 425-580 (Nov. 1) 1925

Partial Bundle Branch Block. D. Scherf and C. Shookhoff.—p. 425.
*Cause of Cheyne-Stokes' Breathing. R. Singer.—p. 441.
*Shifting of Pleural Effusions. R. Lenk.—p. 459.
*Childbirth in Chronic Leukemia. R. Chiari and F. Dautwitz.—p. 475.
Diuresis Test with Mineral Water. W. Edelmann.—p. 485.
Atypical Tuberculosis with Myeloid Leukemia. H. Krasso and H. Nothnagel.—p. 507.
*Bacteriophage Treatment of Pyelitis. E. Zdansky.—p. 533.
*Trypsin Flocculation in Serum. P. Saxl and A. Kelen.—p. 549.
*Water Metabolism and the Reticulo-Endothelial System. P. B. Jochweds.—p. 561.
*Insulin and Pregnancy Glycosuria. H. Elias et al.—p. 567.

Cause of Cheyne-Stokes' Breathing.—Singer reviews the evidence speaking for disturbances of the circulation in the respiratory center as cause of Cheyne-Stokes' breathing. He obtained good therapeutic results with intravenous injections of strophanthin. Lobelia and epinephrine afforded temporarily rapid relief.

Shifting of Pleural Effusions.—Lenk demonstrates the diagnostic value of the shifting of pleuritic effusions. He observed it by means of the roentgen rays in fifteen of seventeen cases immediately after changing the patient's position from the erect to the reclining position. Raising the pelvis of the patient was also of value in this investigation.

Childbirth in Chronic Leukemia.—Chiari and Dautwitz report a normal pregnancy and delivery in a woman who had had myeloid leukemia for at least a year and a half. She had received radium treatment fifteen months before delivery. The mother and child felt well for at least another year.

Bacteriophage Treatment of Pyelitis.—Zdansky introduced a concentrated suspension of bacteriophages into the washed bladder in cystitis. Only six of twenty patients were cured, and only three of the cured group had been treated exclusively with the bacteriophage. The dilution of the bladder contents, the colloids of the medium, and especially the rapid appearance of a strain resisting the action of the bacteriophage were the principal grounds for the failures. The maximum concentration obtainable in cultures of these strains is usually lower than that of the original strain, but it may be higher.

Trypsin Flocculation in Serum.—Saxl and Kelen mixed progressive dilutions of serum with a 1 per cent solution of trypsin in physiologic solution of sodium chloride, with addition of 0.5 per cent tricresol. When the mixture was incubated for twenty-four hours, a precipitate formed with normal serums up to a dilution of 1:400 or 1:800. The index was higher (sometimes over 1:50,000) in certain pathologic conditions, especially grave diabetes. Cancer, pregnancy, tuberculosis, decompensated heart disease and nephritis sometimes had a high titer. Subcutaneous and intravenous injections of trypsin or of milk had little influence on the antitryptic titer. Ligation of the pancreatic duct lowered it in four dogs and brought it down to zero in a fifth. Extirpation of the pancreas has a similar effect. The administration of trypsin by mouth increased the titer considerably. It increases also after meals.

Water Metabolism and the Reticulo-Endothelial System.—Jochweds injected 10 c.c. of a colloidal silver intravenously. A subsequent (in ten minutes) ingestion of 1 liter of water produced a hydremia in these patients, and elimination of water was slow. These changes were especially pronounced in patients with a tendency to edema. He attributes such phenomena to a blocking of the reticulo-endothelial system.

Insulin and Pregnancy Glycosuria.—Elias, Güdemann and Roubitschek found that small doses of insulin increase at times the blood sugar. There is no difference between the alimentary glycemia in pregnancy and in normal controls, only the threshold of elimination is lower in the former. This alimentary hyperglycemia responds to insulin less in the pregnant than in the controls.

Wiener klinische Wochenschrift, Vienna

38: 1325-1348 (Dec. 10) 1925

The London Cancer Research. K. Nather.—p. 1325.
*Exclusion of Sympathetic of Testis Arteries. K. Doppler.—p. 1327.
Roentgen Treatment in Anuria and Oliguria. J. Sahler.—p. 1330.
Injuries from Electricity. P. Schneider.—p. 1333.
Subcutaneous Prolapse of Intestine. H. Schnitzler.—p. 1336.
Practical Organotherapy. F. Pineles. Supplement.—pp. 1-24.

Chemical Exclusion of Sympathetic of Testis Arteries.—Doppler applied a 5-8 per cent solution of phenol on the spermatic and deferential arteries in dogs, and obtained results similar to those of Steinach. He also used the method in over forty men, with three failures, and publishes short histories of five of them: four were between the ages of 25 and 48, one was 68. He observed a hyperemia of the testis, and erections, but most of all a favorable influence on the mental condition.

Zentralblatt für Chirurgie, Leipzig

52: 2753-2816 (Dec. 5) 1925

The Denaturing of Alcohol. G. Perthes.—p. 2753.
*Ligation of Jugular Vein. P. Riess.—p. 2755.
Etiology of Spastic Ileus. P. Riess.—p. 2758.
*Treatment of Scoliosis. A. Gruca.—p. 2761.
*The Blood Supply of the Large Intestine. J. B. Seldowitsch.—p. 2765.
Direct Measurable Blood Transfusion. J. Clemens.—p. 2772.
"Treatment of Hydrocephalus." Drachter.—p. 2776.
Intraneural Injection of Alcohol. N. N. Nasaroff.—p. 2777.

Ligation of Jugular Vein.—Riess confirms the good results from ligation of the jugular vein in pyemia following tonsillitis, as suggested by Melchior.

Treatment of Scoliosis.—Gruca reports excellent results in the majority of his eighteen scoliosis patients treated with Loeffler's method (tenotomy of the erector spinae muscles, followed by a plaster of Paris cast).

The Blood Supply of the Large Intestine.—Seldowitsch found a large accessory artery of the colon (arteria colica media accessoria) in 25 per cent of his 160 necropsies.

52: 2817-2864 (Dec. 12) 1925

*Perforation of Peptic Ulcer. P. Riess.—p. 2818.
Kirschner's Bone Suture. H. Heuss.—p. 2819.
*Postoperative Acidosis. W. Fickenwirth.—p. 2821.
*Treatment of Chronic Arthritis. V. Chlumský.—p. 2825.
*Treatment of Chronic Arthritis. J. Fuchs.—p. 2826.
Rhinoplasty Over a Silver Wire Frame. W. A. Bogorodizky.—p. 2830.
Fracture of the Acetabulum. P. Erlacher.—p. 2835.
"More Extensive Intervention in Breast Cancer." G. Perthes.—p. 2837.

Perforation of Peptic Ulcer.—Riess reports a case of gastro-enterostomy with three recurring peptic ulcers. The

patient returned three times—always because of a perforated jejunal ulcer. He explains it by a predisposition both to ulcers and to perforation.

Postoperative Nondiabetic Acidosis.—Fickenwirth observed within a few weeks four cases of acidosis after plastic surgical interventions on four children (three of them on bones). He attributes the grave condition (vomiting, fever, acidosis, restlessness and tachycardia) to fat embolism. Infusions of physiologic solution of sodium chloride, injections of glucose and administration of sodium bicarbonate are recommended. One of the children, who had been treated with insulin, died.

Treatment of Arthritis.—Chlumský recommends bathing the extremity for ten to thirty minutes in molasses, as hot as the patient can stand. The temperature is kept up by addition of the material, which is inexpensive, keeps indefinitely, and may be used again and again.

Treatment of Chronic Arthritis.—Fuchs claims excellent results in chronic arthritis. His method consists chiefly in application of splints which restrict the movements to those which are not painful, together with application of compressing strips which cause edema of the affected joint. He refers to his previous articles for the technic of his *streifentherapie*.

Zentralblatt für Gynäkologie, Leipzig

49: 2753-2816 (Dec. 5) 1925

*Liver Function in Pregnancy Toxemia. H. Naujoks.—p. 2755.
*"Milk Fever." R. Dyroff.—p. 2759.
Piskaček's Obstetric Maneuver. C. Keller.—p. 2763.
Low Intraspinal Anesthesia. K. Warnecke.—p. 2765.
Removal of Fumes of Anesthetic. J. Wieloch.—p. 2768.
Intracardiac Epinephrine Injections in the New-Born. Koch.—p. 2770.

Liver Function in Pregnancy Toxemia.—Naujoks found in the tetrachlorphenolphthalein test a useful index of liver function in the toxemia of pregnancy. If the dye is still circulating two, six or even twelve hours after injection, the danger is great, and it is not wise to delay the interruption of the pregnancy much longer.

"Milk Fever."—Dyroff confirms the local increase in temperature on the secreting breast. It accounts for the frequent observation of higher temperatures in the axilla.

Časopis lékařů českých, Prague

64: 1753-1788 (Dec. 5) 1925

Brown-Séquard's Syndrome in Tabes. J. Pelnář.—p. 1753.
Idem with Inverted Argyll Robertson Sign. Pelnář and J. Dědeček.—p. 1757.
*Subcutaneous Symphyseotomy. A. Ostrčil.—p. 1758.
Atrophic Infants and Hysteresis of Protoplasm. K. Švehla and C. Saitz.—p. 1760. C'td.
Comparison of Forceps Types. J. Saidl.—p. 1763. C'td.
Trachoma in Bohemia. J. Svoboda.—p. 1771.
"Flint's Symptom." S. Mentl.—p. 1776.

Subcutaneous Symphyseotomy.—Ostrčil pleads for subcutaneous symphyseotomy in multiparas with a conjugate of at least 7 cm.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

2: 2187-2274 (Nov. 14) 1925

Appendicitis in the Elderly. A. G. J. Hermans.—p. 2188.
The Bed with Bone and Joint Tuberculosis. C. Thomassen.—p. 2196.
*Nephrosis and Nephritis Caused by Cystin. G. O. E. Lignac.—p. 2203.
Elimination of Bacteriophage by Very Young Animals. J. van Loghem and P. Peverelli.—p. 2209.
Bisegmental Innervation of Frog Muscles. S. de Boer.—p. 2212.
Remarkably Long Latent Period in Malaria. L. W. Schut.—p. 2217.

Nephrosis and Nephritis from Cystin.—Lignac comments on the close resemblance between the lesions found in seven white mice after intramuscular injection of 1 Gm. of l-cystine in the course of three weeks and the lesions found in the kidneys of three children with cystinuria. The injected cystine formed crystals which were deposited in the spleen, liver and kidney capsules, especially the latter. In six of the mice there was actual nephrosis, and in the seventh mouse a pyelonephritis with evident tendency to calculus production.

2: 2275-2378 (Nov. 21) 1925

*Experiences in Treating Abortions. J. A. van Dongen.—p. 2276.
*Complement Fixation and the Bacteriophage. P. C. Flu.—p. 2285.
*Age at Death of Netherlands Physicians. P. A. de Wilde.—p. 2301.

Experiences with Abortion.—Van Dongen analyzes his 180 cases of retroflexion among his 1,620 abortion cases in a recent six year period. His conclusion is that the backward displacement can be safely left to its fate as spontaneous correction is the rule. Only when mechanical conditions prevent this, is interference necessary. The retroflexion should be corrected also when it had been responsible for abortion in a previous pregnancy. There were only four myoma cases in the total 1,620 abortions; cystic disease of the ovary was noted in three, and a cyst in the gland of Bartholin in seven, but none of these seemed to have been responsible for the abortion.

Hemolytic Tests with Rabbit Serum.—Flu's research was mostly with the bacteriophage (dysentery, staphylococcus, colon bacilli, plague and cholera bacteriophages), but also with bacterial extracts of other kinds. Positive fixation of complement was obtained under many conditions, and often with the serum from normal rabbits as well as from the immunized animals. Hemolytic test findings, therefore, cannot be relied on with rabbits' serum to decide any questions as to specificity.

Age at Death of Netherlands Physicians.—De Wilde states that the average age at death of 2,500 physicians (since 1861) was 59.6 years. The average for the general male population of the Netherlands for the corresponding period was 64.8 per cent. The difference is the more pronounced when we reflect that the weakly do not select the medical profession, so physicians can be regarded as picked men from the life expectancy standpoint. In a recent nine month period, the average age at death was 57.

Acta Tuberculosea Scandinavica, Copenhagen

1: 179-286, 1925

*Dietetic Treatment of Tuberculosis. E. Lundberg.—p. 179.
*How to Save Tuberculous Infants. A. Wallgren.—p. 191.
Spontaneous Osteosynthesis in Tuberculous Hip Joint Disease. R. Hertz.—p. 196.
Test for Gold in Organic Tissues. E. and J. Keiding.—p. 200.
Elimination of Gold in Patients Treated with Sanocrysin. J. Frandsen.—p. 215.
The Circulation, the Depositing and the Elimination of Gold in Sanocrysin Treatment. H. Hansborg.—p. 255.

Formation of Para-Insulin in the Tuberculous and Regulation of the Diet Based Thereon.—Lundberg calls "para-insulin" the substance resembling insulin which he has discovered in the tissues of the tuberculous. It explains the improvement of the diabetic symptoms in cases of associated tuberculosis and diabetes, and it also explains the exceptional sensibility to insulin of the tuberculous. The discovery of the para-insulin suggested the possibility that some of the symptoms in tuberculosis may be due to an overproduction of this insulin-like substance. Tachycardia, night sweats without fever, and almost all the general symptoms of tuberculosis appear in the clinical picture of hyperinsulinism. These symptoms have been ascribed hitherto to toxemia from disturbances in the suprarenals or thyroid, but they might be due to a reaction to the formation of para-insulin. An excess of this calls for increased intake of carbohydrates. Applying this principle to the diet of the tuberculous was followed by a remarkable improvement in three cases previously refractory to the usual measures and growing worse. He gives the roentgenograms showing the steady improvement. The weight in one man of 34 increased from 51 to 80.5 Kg. in six months. He had been given 25—53—40.5 calories per kilogram, the carbohydrates forming 54 per cent of the calories at first and 32 per cent after the first two months.

Treatment of Tuberculous Infants.—Wallgren relates that of eighty tuberculous infants less than a year old at the Göteborg children's hospital, fifty were given systematic and adequately prolonged treatment with sunlight or artificial light, scrupulous hygiene and cod liver oil. Thirty-seven can be regarded as cured, no signs or symptoms having been detected during the months or longer since the close of the course. The infants are sought out in homes known to contain a case of tuberculosis, and it thus has been possible to start treatment in the very earliest phases.